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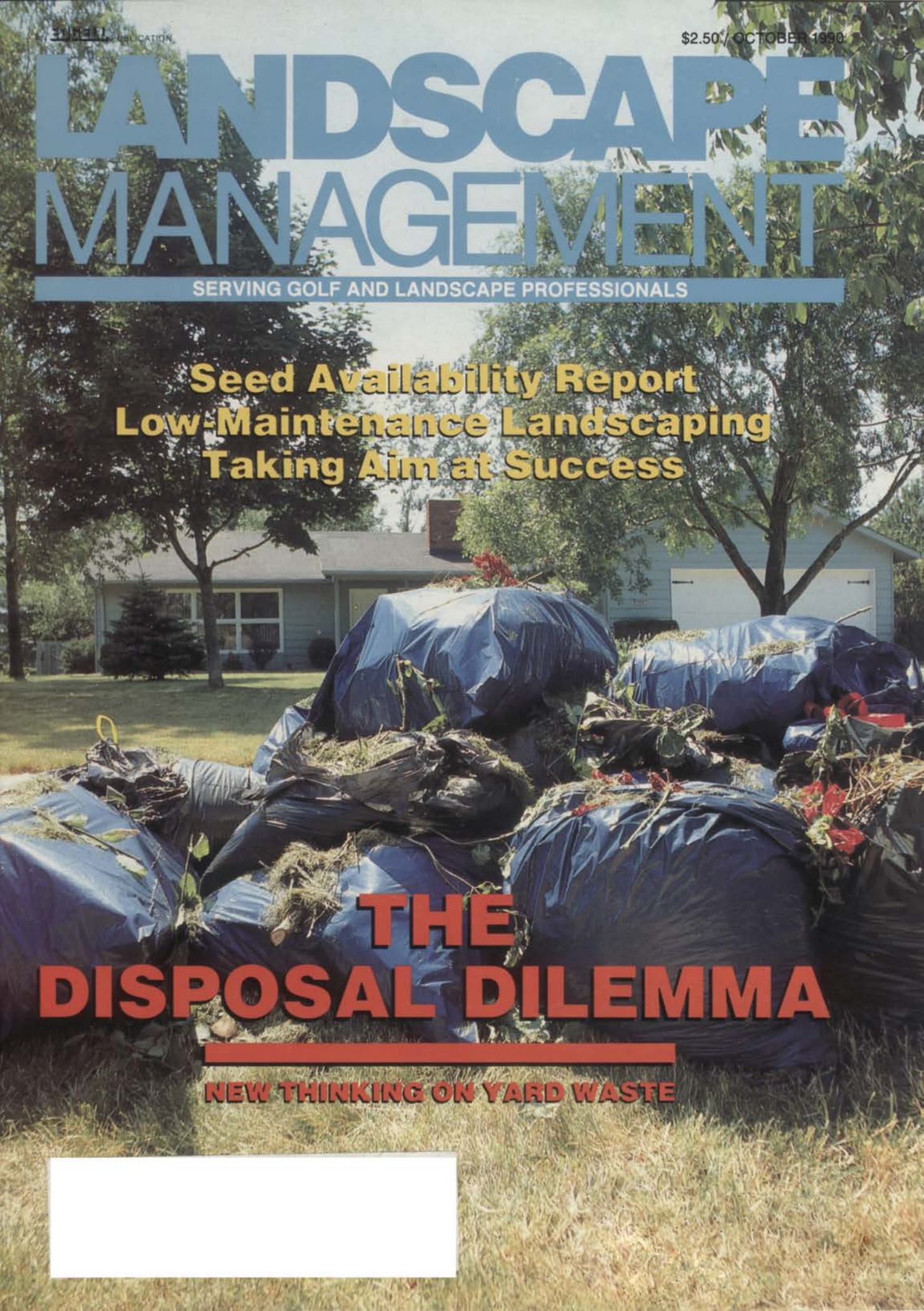
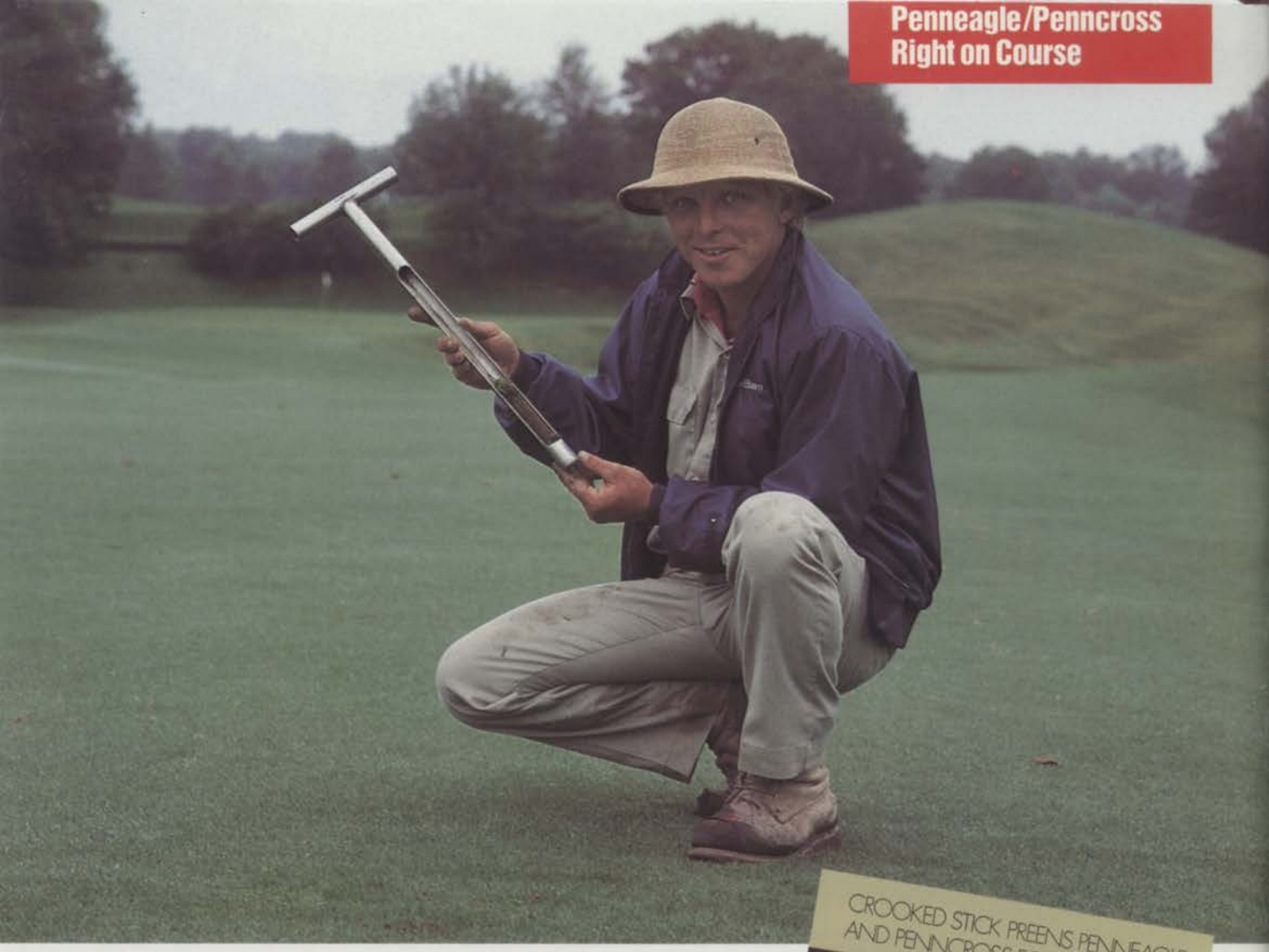


THE DISPOSAL DILEMMA

NEW THINKING ON YARD WASTE



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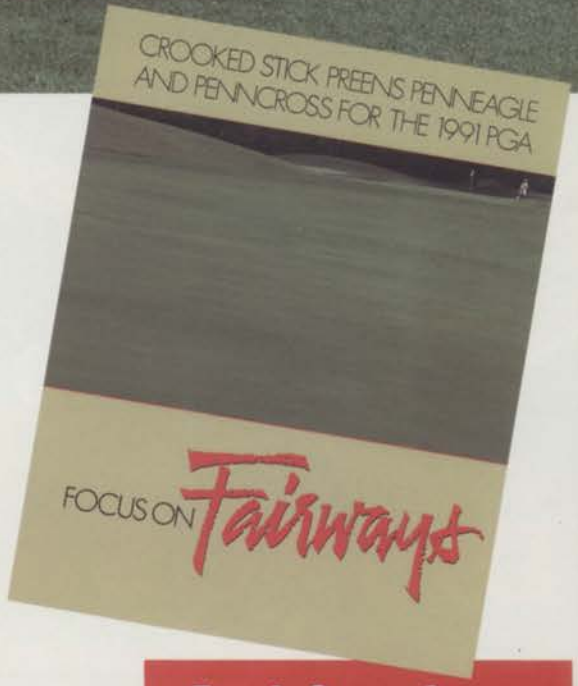

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OCTOBER 1990, VOLUME 29, NUMBER 10

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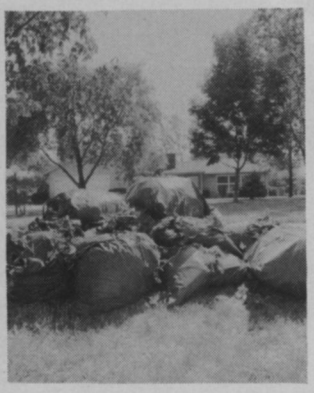

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AS I SEE IT...

Lawn care bashers get 'just dessert'

When last we visited, you might remember, I had just read an article in the hometown newspaper that raised the hackles on the back of my neck. In the bylined article, the professional lawn care industry took some unkind and undeserving hits from a self-styled "environmental activist."

Like a good industry steward, I responded via mail. The stamp was slapped on the letter with some vehemence.

Barely a week later, I received a call from the editorial department at the newspaper. A kindly voice asked my permission to print my letter, *en toto*, in the paper's "Forum" department, and I agreed.

Shortly thereafter, a "Letter to the Editor" signed by an old acquaintance, Gary Chamberlain, a regional agronomist for ChemLawn, appeared in the paper.

"I propose that we dismiss the demagogues of doom who hide under the banner of environmentalism and pay attention to the people who are doing something positive for our environment," Chamberlain wrote. "Too often, we let fear-feeding misinformation get by without challenge."

Two days later, when the paper used my piece, it was—surprisingly—virtually exactly as I had written it. The headline exclaimed, in large type, "Lawns won't bite." I submit to you its conclusion:

"To put everything in perspective—and this is what the landscape and lawn care industries have believed all along—the risks associated with lawn pesticides are so minor as to be negligible if used according to label directions.

"It may be the (newspaper's) mission to uphold free speech principles for misplaced doomsayers. But it should also be its mission to see that the public is *truthfully* informed in a *complete* and *impartial* manner."

I have yet to receive a phone call from the author of the original article. I don't suspect that I will. For he knew when he was writing the article, and knows today, that he was twisting the truth, playing on the public's emotions, and—most despicably—not telling the whole story.

There is a moral here. The mass media are indeed searching for real truths. They are neither our friends nor our enemies. They listen. But they need someone to listen to; and that's where we come in—if we are brave enough and intelligent enough to tell our side of the story.

So the next time the lawn care bashers show their faces in your community, be brave and be intelligent. Don't let them get away with their half-truths and emotional appeals. If you don't defend yourself, no one else will.

Jerry Roche

Jerry Roche, executive editor

LM

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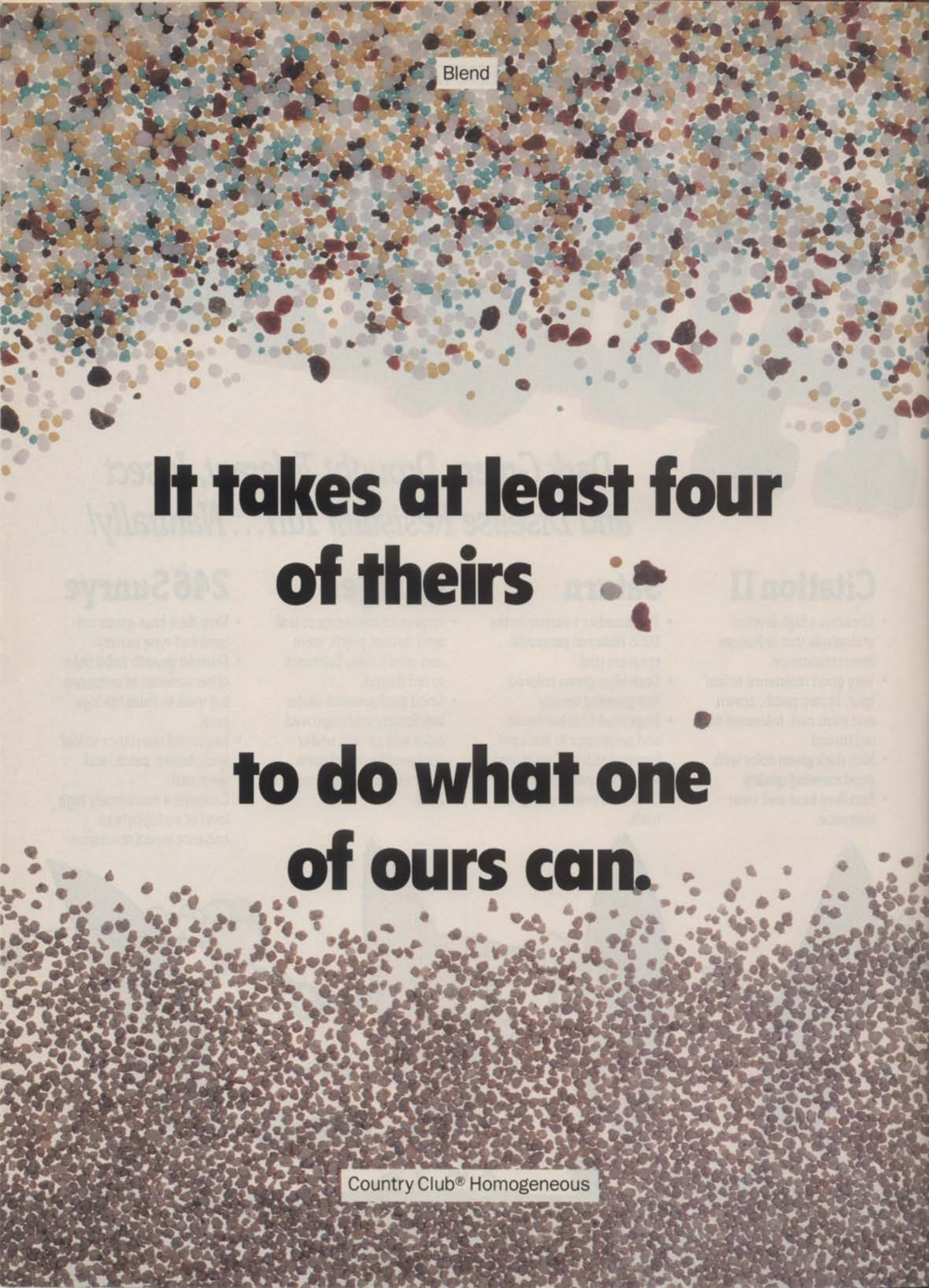
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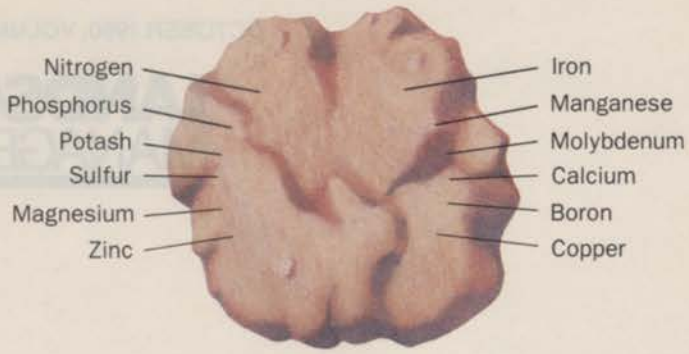

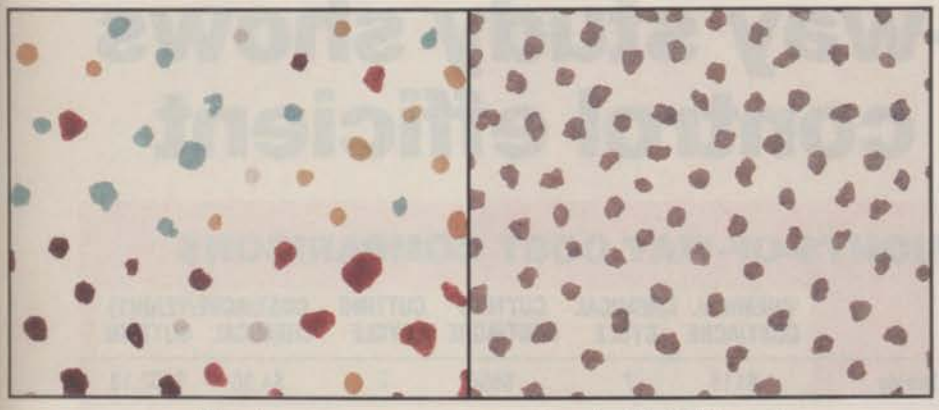

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GREEN INDUSTRY NEWS

OCTOBER 1990, VOLUME 29, NUMBER 10

LANDSCAPE MANAGEMENT

RIGHTS-OF-WAY

Rights-of-way study shows chemical control efficient

MADISON, Wisc. — A recent analysis by the Wisconsin Forestry/Rights-of-Way/Turf Coalition shows that hundreds of dollars per acre can be saved along U.S. Forestry rights-of-way by using chemical control products.

Stem densities are also shown to be significantly higher after cutting than they would be if control products were used.

The study (see chart) was conducted in response to a decision by the Forestry Service to defer herbicide use in seven national forests and right-of-way areas in Michigan, Minnesota and Wisconsin.

RIGHTS-OF-WAY COST COMPARISONS

	CHEMICAL COST/ACRE	CHEMICAL CYCLE	CUTTING COST/ACRE	CUTTING CYCLE	COST/ACRE/YEAR(1) CHEMICAL	COST/ACRE/YEAR(1) CUTTING
St. Louis County	$115	7	$650	2	$4.36	$102.13
Central Illinois Public Service	$137	6	$1,200	3	$6.26	$121.76
Minnesota Power (2)	$130	7	$400	4	$4.93	$28.13
NSP Wisconsin	$175	7	$360	3	$6.64	$36.50
Enron	$160	7	$310	5	$6.07	$16.66
Wisconsin Electric (3)	$130	5	$170	5	$6.94	$9.12

(1) Assumes 4% escalation rate and 11% cost of capital.
(2) Cutting costs to increase as densities increase.
(3) Cutting costs to increase as densities increase and cutting cycle will increase.

Source: Wisconsin Forestry & ROW Coalition.

According to Terri Ambroz, state coordinator with the Minnesota Pesticide Information and Education Organization, the Forest Service is now managing only small hardwood plantations, which can be managed without herbicides.

"They extended their decision to all the permitees," explains Ambroz, "saying the permitees must each prepare environmental impact statements before using herbicides, which the Forest Service may or may not accept."

As one of the survey's most glaring examples of waste, chemical use in St. Louis County near Duluth, MN, costs $115 per acre during the seventh chemical use cycle. The cost of cutting the same land in the second cutting cycle rockets to $650 per acre.

Russ Weisensel, the coalition's executive director, says the survey's harsh realities have had no effect on the government.

"I don't think there's any argument with these guys that herbicides cost less than mechanical control," Weisensel says. "They would have to add that to the cost of what it takes to prepare environmental impact statements; plus, they'd immediately be forced with lawsuits and tie up valuable foresters in red tape."

"We're looking at the public interest," says Ambroz. "It would make more sense," explains Ambroz, "for the Forest Service to produce one Environmental Impact Statement for the entire region than it would for us to be preparing hundreds of impact statements."

Weisensel believes the government is working against itself with the decision.

"President Bush wants to plant one billion trees in the next 10 years," marvels Weisensel, "and Wisconsin's Governor Thompson wants to plant 110 million trees in our state during the same time span, yet our U.S. forests in this region do not feel they need to manage for fiber production."

"The irony," exclaims Weisensel, "is that (the decision) comes at a time when the use of paper products is being suggested to replace many plastics and when we will need to increase forest productivity."

Weisensel urges foresters and rights-of-way professionals to write or call their senators and congressmen in support of herbicide use. □

LEGISLATION

Supreme Court may scrutinize, rule on posting regulations for city in Michigan

WASHINGTON — The U.S. Supreme Court will decide this month whether it will hear an appeal of a lower court decision which nullified a posting ordinance in the village of Milford, Mich.

Village officials had challenged an earlier district court decision saying that Ordinance 197, enacted in 1986, was pre-empted by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Council considered requesting a Supreme Court hearing, but balked when advised that a denial by Rehnquist and Co. would cost from $1,000 to $2,000, in addition to the $9,000 spent pursuing the first, district court, appeal.

Then the Public Citizen's Litigation Group intervened, saying it would pay the necessary legal fees incurred by the appeal.

"When it came down to the fact that there would not be any costs involved to the village, that changed my mind that we should pursue the appeal," says city council member Christopher Smith.

The ordinance would require commercial pesticide applicators operating in the village to pay an annual registration fee of $15, post warning decals at application sites, and notify "chemically sensitive" residents a day in advance of control product applications.

But according to the *Oakland Press*, only two persons have been certified by their doctors as "chemically sensitive."

Smith and others feel, however, that the other notification procedures would benefit all residents.

The August 1 ruling was a significant victory for the Professional Lawn Care Association (PLCAA), and may have set a precedent against which similar cases may be judged.

Village authorities claim that the proposed ordinance is merely a "public notice regulation," designed to protect the health and safety of village residents. □

Opinion

The accompanying news story from Milford, Mich., gives some insight into politicians and their pursuit of "principles."

In August, this town 30 miles west of Detroit lost its appeal to supercede the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) with a proposed village ordinance. (You've probably heard this one before. Milford is one of a few towns that has tried this strategy.)

The Milford proposal has an interesting provision whereby "chemically sensitive" residents would have to be notified before any control products were commercially applied. (No, homeowners—who often misuse products—wouldn't have to notify anyone. They count for a lot more votes, you see.) City records show only *two* Milford residents have registered themselves as "chemically sensitive." There used to be three, but one moved.

Council member Cora Langerman told reporters that she was not comfortable supporting "an ordinance that's not going to be for the majority of the people." Well said, Cora.

After initially deciding not to appeal, the council changed its mind when the Public Citizens Litigation Group, a Ralph Nader offshoot, said it would foot the bill for the Supreme Court legal fees.

If they're that confident the bill is beneficial to a majority of the people, shouldn't they be betting with their own money? Then, if the city wins, the court pays the costs.

Give the council credit for balking at using more public funds in pursuit of what it must feel in its collective gut to be a lost cause. But if council members really cared, they'd go to the residents and get voter permission to spend more dough. In the meantime, as long as someone else will pay, their attitude is: "Let's get concerned all over again, and pretend we care more about public welfare than we do about making loud noises and playing at empathy."

—*Terry McIver*□

Native wildflowers, under high demand in recent years, adorn this site at Bergen Park in Colorado, says the ASTA.

SEED

Wildflowers: is it best to plant native or non-native species?

WASHINGTON — Continued demand for native wildflower species has strengthed the seed industry's commitment to research and development.

The Wildflower Group of the Washington, D.C.-based American Seed Trade Association (ASTA) says research is centering on planting rates, weed control, soil preparation, maintenance, and other challenges of wildflowers.

The group says the issue of whether to plant native or non-native species has become a "considerable controversy" among ecologists, environmentalists and other seed and landscape professionals.

The Wildflower Group says native wildflowers

continued on page 14

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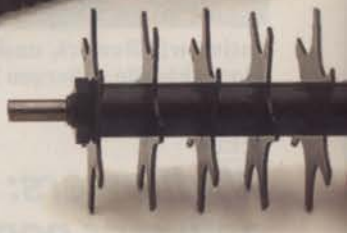

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TREES

Davey Tree begins courses on safety

KENT, Ohio — The Davey Tree Expert Company, a trailblazer in professional tree care, now offers instruction in first aid and defensive driving to all its employees.

The course uses instructors, videotapes, and training manuals and is followed by certification tests.

The first aid program instructs the company's 4,500 field personnel on how to avoid and deal with serious accidents and injuries relative to tree care work.

"We needed to emphasize certain types of acidents and injuries because of the specialized nature of our business," says Ron Cole, Davey's corporate risk manager.

To produce the most useful safety instruction, Cole called on Optimum Health Service of the Bethesda Medical Center of Cincinnati to recommend treatment for certain "worst-case" accident scenarios."

Davey president and CEO Doug Cowan says that, because of the hazards involved in tree climbing, employees must know how to handle particular injuries.

"As much as we work to prevent accidents, they still occur," admits Cowan. "The first person on the scene with knowledge of first aid can make the difference between a serious injury and a minor one."

The three-part, one-day safety program combines first-aid training, CPR and tree and bucket rescues for tree trimmers.

The defensive driving program is in line with new Occupational Safety and Health Association (OSHA) regulations.

"It covers everything imaginable, according to what kind of driving conditions our drivers face with our particular types of vehicles," Cole says.

The program will aid new employees who have never driven vehicles such as semis, conventional trucks, tanker trucks, pickup trucks and aerial units with buckets.

"Defensive driving is a matter of changing an attitude, says driving coordinator Terry Owen, "and it doesn't happen overnight."

Davey has been recognized as a trailblazer since its inception almost 100 years ago. □

The Davey Tree Expert Company's first aid program is designed to teach employees how to deal with job injuries.

INDUSTRY

Smaller companies can now purchase 'big' through new green industry cooperative

LOUISVILLE, Ky. — Smaller green industry companies can now earn discounts and rebates on products through membership in the newly-formed Green Industry Cooperative (GIC).

Discounts offered by participating manufacturers will be similar to the discounts given to the single, large-volume buyer, many of which the smaller companies must compete against.

"My experience in the industry has convinced me of the immediate and continued acceptance of this concept," says Dave Fuller, who organized the cooperative with Mike Packer.

Fuller is the former owner of Fullcare, Inc., here. He serves on the board of the Professional Lawn Care Association of America (PLCAA). Packer is former vice president of sales of the Bunton Company.

Under the cooperative, GIC members purchase products as they normally do at current market prices. Cash rebates are issued quarterly based on proof-of-purchase documents obtained from participating manufacturers.

"This is a win-win situation," says Fuller. "A manufacturer gains a new buyer, and a member of the co-op gains the opportunity to buy name brand products at discounted prices."

"I can relate to the need to identify and retain the small-volume buyer," says Packer. "It is nearly impossible—and very costly—for a single manufacturer to accomplish this on a national level."

Both men estimate that the green industry has more than 60,000 small- to medium-sized companies.

Landscape and lawn care companies with memberships in GIC will also receive new product news, research data and technical bulletins.

For more information on the unique Green Industry Cooperative, telephone (800) 548-6862. □

WILDFLOWERS

from page 11

serve to define the image or character of an area, and are more likely to remain than non-native species.

However, according to the group, seed costs and availability pose problems. Special equipment for planting, harvesting and cleaning the native seed is cost-prohibitive, and harvesting by hand takes up too much time.

Additionally, some species do not produce substantial quantities of seed, whether collected by hand or machine.

ASTA's Wildflower Group concedes that nonnative annuals must be used in regions that do not have any native species or in which none are commercially available.

"The bottom line," says the group, "is that customers want a visible display that is attractive and colorful, which may necessitate planting some wildflowers that are not native.

"The gap between the ideal and the practical is widened by costs, availability and other realities of the marketplace."

For more information, contact ASTA at 1030 15th St., NW, Suite 964, Washington, DC 20005. □

Public is concerned over chemical care

MARTINSVILLE, N.J. — The 1990s contain mixed messages for the pest management industry, according to Dr. Norm Hummel of Cornell University.

Hummel sees more emphasis placed on good-looking lawns and landscapes, and a continued growth of golf, but not without consumer concern over chemical control products.

"The turfgrass industry must prepare for the 1990s by offering services that change with the wants and needs of consumers," says Hummel. "In so doing, we will remain competitive in what will most likely be a more competitive industry."

Hummel believes there are three key factors to consider during the 1990s:

- consumer demand;
- laws and regulations; and
- research/development.

Turf selection, Hummel says, will become a bit more non-traditional.

According to Hummel, consumers have come to appreciate the value of high quality grasses, but have also become more health conscious. Reports on the negative aspects of pesticides have polarized much of the public away from pesticide use.

Hummel also thinks federal legislation will influence the use and registration of pesticides. "Many products will be lost due to failure to re-register all materials labelled before 1984," he predicts. "Last year, 20,000 products were lost because companies failed to re-register them with the EPA."

Research and development of new turfgrass species continues at a great pace, and Hummel predicts "hundreds of cultivars" ready by the end of the decade.

These include bluegrass, ryegrass, tall and fine fescues and bentgrasses. They will be cultivars that will perform with less water, fertilizer and pesticides.

Turf selection, Hummel says, will become a bit more non-traditional, and he predicts we will see more fine fescue greens.

"You may also hear about buffalograss, grama, blue grama and others for use in low-maintenance areas," Hummel continues.

Hummel clearly believes that smart business persons must brace themselves for change.

"Staying afloat in this business is more than just riding a wave," cautions Hummel. "We must look for the next wave and catch it. Change in the 1990s is inevitable. You've got to keep an open mind, keep informed and learn the new technology.

—*Terry McIver* □

Hummel: Hundreds of new cultivars ready by 2000.

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RESEARCH

Sod improved by growth regulator

BLACKSBURG, Va. — Dr. J.R. Hall III of Virginia Polytechnic Institute & State University reports encouraging findings on improved rooting and sod strength through the use of growth regulators.

"Some of the growth regulators appear to provide increased rooting at sod installation if applied prior to harvesting," says Hall, who is in the second year of a two-year research program with Dr. Wayne Bingham, root specialist.

Hall's earliest hypothesis is that the regulators slow leaf growth, thereby conserving carbohydrates needed for root system regeneration.

Products being tested include Embark, Event, Limit, Telar and Cutless.

"In last year's test," reports Hall, "Embark and Event actually reduced sod strength, but increased sod rooting 40 to 50 percent. The ones that were increasing sod strength were combinations of Embark and Telar and combinations of Limit and Event."

Hall says sod rooting was increased 30 to 50 percent with combinations of Embark and Event, and Event and Cutless.

"We've repeated the study this year," says Hall, "so we're hoping we can reproduce those results."

Hall and Bingham will present their findings at the October meeting of the American Agronomy Association in San Antonio. □

SEED

Bogus signatures extinguish hopes of anti-burn crew

ALBANY, Ore. — A much-ballyhooed grass seed field burning petition failed in July when it was discovered that thousands of the submitted signatures were those of unregistered voters.

According to Sue Proffitt of the Secretary of State's office in Salem, 7,614 signatures were declared invalid.

The initiative, sponsored by End Noxious Unhealthy Fumes (ENUF) would have established an immediate ban on field burning. Another failed initiative, sponsored by Oregonians Against Field Burning, sought to place on the ballot an initiative which would phase out the practice over time.

The failures provide the seed industry with some temporary shelter from the snares of further government intervention in a business which provides thousands of jobs to citizens in the Northwest.

Field burning, the last step in the grass seed harvesting process, involves burning off old grass stalks to kill pests and bacteria. It has long been proven the most effective way of preparing a harvest site for the following year's planting.

Steve Tubbs of Turf Merchants, Inc. in Tangent, says the failure of the petition "gives us another year to work on the alternatives to field burning. We know it's going to come back," says Tubbs, "and we're working to have a lot more to show the next time, as far as finding our own solutions."

Bill Meyer, president of research for Turf-Seed, Inc., believes the failure of petitioners to obtain suffi-

continued on page 26

NEWS BRIEFS

ACROSS THE WATERS... Landscape contractors in England and Wales recently received a boost when legislation was passed requiring municipalities to accept bids. Many municipalities had been doing their own landscape maintenance. According to European sources, the new law has meant an opportunity for some municipal landscape managers to open their own private landscaping companies and submit bids to the government. Such a trend could increase the 2,600 private landscape contractors now operating in the U.K.

BUILD NUMBERS IN...F.W. Dodge reports that non-residential building contracts are expected to decline 10 percent this year. The research firm also forecasts a 17 percent decline in commercial and manufacturing buildings, a seven percent gain in educational building contracts, and a one percent drop in hospital and health construction. Residential construction is expected to dip by seven percent, with a three percent drop in single-family houses and a 20 percent decline in multi-family housing.

BIOLOGICAL STEPS... Mycogen Corp. has received a U.S. patent for bio-nematicides that are toxic to animal and plant parasitic nematodes. The company says the patent is based on several novel strains of the *Bacillus thuringiensis* (B.t.) bacterium discovered by Mycogen scientists. The bacteria produce proteins that are highly toxic to certain nematodes but are essentially non-toxic to mammals, birds, fish and beneficial insects.

UNCERTAIN FUTURE...A horticultural "oils task force" has been formed to deal with potential data requirements expected in the EPA re-registration process. The task force is manned by members of major horticultural oil producers. Horticultural oils are gaining wider acceptance in the landscape market as non-synthetic insecticides.

WELCOME TO THE FOLD... Two new green industry organizations have popped up recently: the Green Industry Council of Greater Los Angeles and the Lawn Care Association of Pennsylvania (LCAP). The former was necessitated because of "a wave of new and unfair regulations," according to a memo from president **Mickey Strauss.** The latter had its first meeting Aug. 30 at Toftrees Hotel Resort in State College. For more information, contact the GIC of L.A. at 3558 Overland Ave., Los Angeles, CA 90034 and the LCAP at P.O. Box 13848, Reading, PA 19612.

ServiceMaster and Waste Management form lawn care/pest control partnership

DOWNER'S GROVE, Ill. — ServiceMaster L.P. and Waste Management Inc. have agreed to form a new partnership with branches and franchises offering lawn care, pest control and cleaning services to homeowners.

The resulting partnership is expected to have a huge impact on the professional lawn care industry and a significant impact on the professional pest control industry.

ServiceMaster will contribute its consumer services business, including lawn care and cleaning, Terminix pest control, Merry Maids service and American Home Shield home service warranty. Waste Management will contribute its pest control and TruGreen lawn care businesses.

The venture, to be called ServiceMaster Consumer Services L.P., will operate as a unit of ServiceMaster. Waste Management will be represented on the new company's board of directors but will not participate in its day-to-day management.

"We really don't have all the answers yet," notes Roger Ervin, who is ServiceMaster's vice president of financial relations. "The final agreement will be reached, hopefully, by year-end. We'd like to take the good pieces from both and improve upon our product and services."

In the area of lawn care, details which yet have to be worked out include:

- How will the TruGreen branch system fit into ServiceMaster's basic franchise concept?
- In territories where ServiceMaster Lawn Care franchises and TruGreen branches overlap, how will accounts be handled?
- Will the TruGreen branches retain their corporate name or become known as ServiceMaster Lawn Care?

Similar problems are faced in pest control where Waste Management pest control and Terminix could overlap.

Nonetheless, "the new entity will have a real presence in the lawn care market, which we're excited about," Ervin notes. TruGreen, before the venture was announced, was the second-largest lawn care company in the country behind ChemLawn.

ServiceMaster will initially hold 80.1 percent of the common equity, Waste Management 19.9 percent. Waste Management will get a preferred interest which is convertible into another 2.1 percent of the common equity of the partnership.

The new partnership is valued at approximately $920 million. ServiceMaster's contributing businesses were responsible for $750 million in revenue in 1989; Waste Management's for $170 million.

The game plan, according to a report in the *New York Times*, is for Waste Management to focus on environmental services and for ServiceMaster to focus on consumer services.

"We are excited by the growth aspects we see ahead in the consumer services industry," notes Waste Management chairman and CEO Dean Buntrock. "We believe this combination will greatly enhance the development of the consumer services industry in the U.S." □

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Surviving the green industry: It's not as easy as it looks

PAINESVILLE, Ohio — "Entering the landscaping business is easy; survival is not," says **Kurt Kluznik** of Yardmaster, Inc.

Kluznik and co-owner **Rick Colwell** met when they were in their teens, and have been business partners ever since. Yardmaster, their landscape architecture/contracting/maintenance company, was born in 1971. Though headquarters are here, branch offices were opened in Pittsburgh (1987) and Bedford, Ohio (1989).

Kluznik says he understands how someone serving as a foreman for a landscape company can reach a point where owning a business looks like the only way to go.

Yardmaster's Ed Gallagher (left) confers with crew members on a daily basis to keep things running smoothly.

"You get the entrepreneurial drive," he says. "You want to be a boss, you get tired of taking orders, you want to work when you want, hand pick the jobs, make more money."

But there is a price to pay, "when people experience business for a few months or a few years, and they find out that even though they think they are their own boss, in reality the customer is the boss, and you do what you have to do to satisfy the customer."

And being the company president doesn't necessarily mean the minions do all the work. Kluznik says ownership—especially in the early days of a company—"means you work seven days a week, or handle collections, handle the slow times and replace or

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Kluznik: Listen to customers

repair the equipment you didn't save up for. There is a lot of responsibility in being self-employed."

Yardmaster specializes in commercial property maintenance and residential landscaping. Current accounts number about 130.

Colwell handles the landscaping division, while Kluznik oversees sales and the maintenance group.

Ed Gallagher, landscape management manager, says Yardmaster's maintenance business grew by about 50 percent in 1989, thanks to the Yardmaster name and its ability to provide maintenance on design/build jobs.

"Most of the major contractors know Yardmaster's the largest landscaper in Ohio and they're going to come to us initially to get bids," says Gallagher proudly. "They want to work with a substantial company."

Gallagher says one of the Yardmaster strategies is to establish accounts with companies currently relying on in-house crews, as done recently at an liberal arts private school and hospital.

"We show them what a maintenance contractor can do for them and their costs," explains Gallagher. "We can do in a day what it ordinarily takes a week for their own people (to accomplish)."

An important moment in the Yardmaster history occurred when Kluznik and Colwell decided to contact a business consulting firm, Ross Payne & Associates.

Business consultation, despite the extra costs involved, proved to be a worthy ingredient in the success formula. Combined with Kluznik's and Colwell's natural business skills, Yardmaster has maintained consistent annual growth of 25 to 30 percent, according to Gallagher: "We're a $6 million operation with 180 to 200 employees."

—Terry McIver□

Knoop campaign wins excellence

DALLAS — "Don't Bag It," a lawn care program that reduces yard waste going into landfills by recycling grass clippings instead of bagging them, has earned the EPA's award of excellence for solid waste management.

Dr. Bill Knoop, a Texas A&M turfgrass specialist who devised the program, says, "People who want to make a difference in preserving the environment can do something that works—and do it immediately without spending a lot of time or money."

Robert E. Layton of the EPA says, "These efforts will help prevent us from burying ourselves in our own garbage."

For more information, read the article beginning on page 30. □

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VANGUARD

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EVENTS

OCTOBER

15: Target Specialty Products Fall Seminar, Radisson Hotel, Sacramento, Calif. Contact: Target Margeting Communications Dept., (213) 865-9541.

16-17: Tree Fertilization Seminars sponsored by Forest City Tree Protection Co., Cleveland and Columbus, Ohio. Contact: National Arborist Association, P.O. Box 1094, Amherst, NH 03031-1094; (800) 733-2622.

17-18: Fertilizer Outlook '91, Grand Hyatt Hotel, Washington, D.C. Contact: The Fertilizer Institute, 501 Second St., N.E. Washington, DC 20002; (202) 675-8250.

18-20: Sunbelt Agricultural Exposition, Moultrie, Ga. Contact: P.O. Box 1209, Tifton, GA 31793. (912) 386-3459.

National Institute on Park and Grounds Management Educational Conference, Reno, Nev. Contact: National Institute, P.O. Box 1936, Appleton, WI 54913; (414) 733-2301.

21-24: ALCA Interior Plantscapes Division Conference and Trade Show, Radisson Hotel, Denver, Colo. Contact: Conference Registrar at (703) 241-4004.

22-25: Penn State University, "Biodiversity and Landscapes: Human Challenges for Conservation in the Changing World," University Park, Pa. Contact: Dr. K.C. Kim, 117 Land and Water, Center for Biodiversity Research, Penn State University, University Park, PA 16802; (814) 863-0159.

24: NYSTA Safety and Preventive Maintenance Seminar, Oyster Bay, NY. Contact: (800) 873-8873.

24-27: American Society of Consulting Arborists Annual Meeting, Innisbrook Resort, Tarpon Springs, Fla. Contact: ASCA, 700 Canterbury Rd., Clearwater, FL 34624; (813) 446-3356.

25-26: Xeriscape '90, San Diego Convention Center. Contact: Cuyamaca College Botanical Society, Ornamental Horticulture Department, 2950 Jamacha Rd., El Cajon, CA 92019, or call Jan Tubiolo at (619) 443-1756.

25-27: American Society of Landscape Architects Annual Meeting and Educational Exhibit, San Diego Convention Center. Contact: Betsy Cuthbertson, ASLA, 4401 Connecticut Ave., Suite 500, Washington, DC 20008; (202) 686-2752.

26-29: National Conference of the American Society of Irrigation Consultants, Sunburst Resort Hotel and Conference Center, Scottsdale, Ariz. Contact: Wanda Sarsfield, ASIC, 425 Oak Street Brentwood, CA 94513; (415) 516-1300.

28-Nov. 1: International Irrigation Exposition, Phoenix Convention Center. Contact: The Irrigation Association, 1911 N. Fort Myer Dr., Suite 1009, Arlington, VA 22209-1630; (703) 524-1200.

31: Atlantic Seedsmen's Association "Marketing for Profit, Not Just Sales," Cavalier Hotel, Virginia Beach, Va. Contact: John E. Baylor, 298, McCor-

continued on page 26

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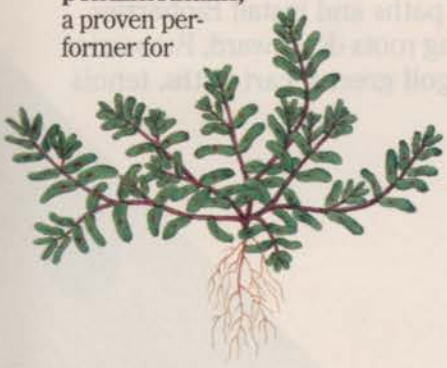

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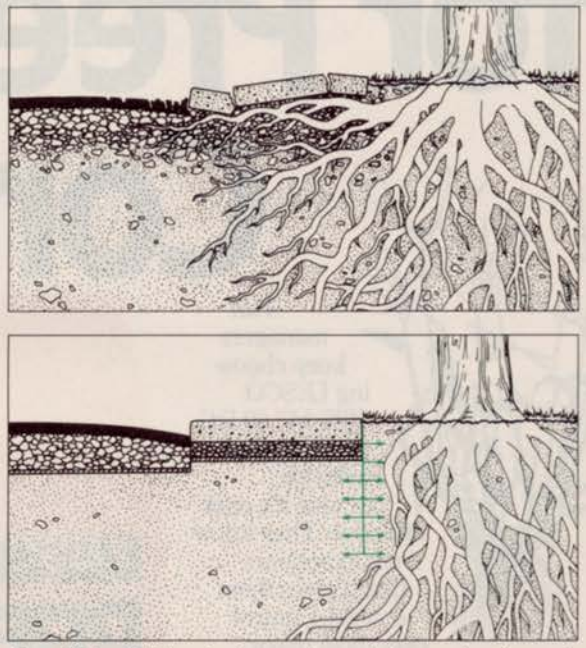

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EVENTS *from page 22*

mick Ave., State College, PA 16801; (814) 237-0330.

NOVEMBER

4-8: Tree Biology Seminar, featuring Dr. Alex L. Shigo, Appalachian State University, Boone, N.C. Contact: Office of Conferences and Institutes (704) 262-3045.

7-9: Florida Nurserymen and Growers Association Foliage Safari, Ft. Lauderdale. Contact: FNGA, 5401 Kirkman Rd., Suite 650, Orlando, FL 32819; (407) 345-8137.

14: University of Florida Seminar on Cold Protection and Water Quality, Agriculture Center Auditorium, Sanford, Fla. Contact: Uday K. Yadav, (407) 323-2500, ext. 5559.

10-12: New Jersey Shade Tree Federation 65th Annual Meeting, Grand Hotels, Cape May, N.J. Contact: William J. Porter, N.J. Shade Tree Federation, P.O. Box 231, Blake Hall, Cook College, New Brunswick, NJ 08903.

10-14: Green Industry Expo '90, Nashville, Tenn. Contact: Green Industry Expo '90, 1000 Johnson Ferry Rd., Suite C135, Marietta, GA 30068-2112; (404) 977-5222.

13-16: New York State Turfgrass Association, Turf and Grounds Exposition, Rochester, N.Y. Contact: NYSTA, (518) 783-1229.

15: Southern Grounds and Turf Maintenance Exposition, Myrtle Beach, S.C. Contact: (803) 737-9356. **LM**

BURN *from page 16*

cient signatures "indicates that we in the grass seed industry still have some support in the state. The people of Oregon care about our industry and the 10,000 jobs we generate."

Bill Young, sales manager with Lofts/Great Western Seed Co. thinks it's only a matter of time before burning is outlawed. "It's disappointing," says Young. "It's a viable and very adequate means. We're now going to have to develop other means and cultural practices." □

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ee, we make e product.

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COVER STORY

WHAT TO DO WITH THE CLIPPINGS?

Regulations regarding lawn clipping disposal are popping up all over. So are alternatives to dumping them in overcrowded landfills.

by Will Perry, managing editor

What more can be said about the proliferation of landscape regulations? Today even the most innocuous byproduct of a hard day's work—grass clippings—falls under the legislative thumb.

Is that it now, Mr. Senator? Have all bases finally been covered?

Probably not. But this recent tide of legislation, enacted to preserve rapidly diminishing landfill space, may actually work to the landscaper's benefit. In today's increasingly environment-conscious market, using alternative disposal methods reinforces the industry's ecological concerns. Also, it may make mowing less time-consuming and burdensome.

Too much waste

Garbologists claim that organic lawn and ornamental matter, or grass clippings and tree limbs, is hogging as much as 20 percent by weight of this country's landfill space. Only paper and paperboard products account for more space. The Environmental Protection Agency projects that half of this country's 6,000 landfills will be closed within five years. The solution: banish all yard wastes.

Consequently, many states have done exactly that. The first bans on landfill disposal of grass and tree trimmings appeared in late 1989. Today, 11 states have enacted legislation to keep yard waste out of their landfills by 1993. In the District of Columbia, Illinois, and a seven-county metro area of Minnesota, it is already illegal to dispose of yard wastes in landfills.

Responding to the issue

The landscaping industry is responding to the landfill crisis in a variety of ways:

- lawn care professionals have gotten in front of the issue by spearheading the "Grasscycling: Today's Turf, Tomorrow's Earth" campaign;
- turfgrass breeders have begun measuring the total volume of clippings accumulated when evaluating new tall fescues;
- mulching or recycling mowers are gaining wider attention;
- a wealth of research is emerging that shows the value of returning organic material to the landscape; and
- composting is becoming a more viable service for landscapers to offer (see related story, "Meeting Tomorrow's Recycling Challenges.")

The "Grasscycling" campaign is being spearheaded by the Professional Lawn Care Association of America (PLCAA). It's an offshoot of a "Don't Bag It" program begun by Dr. Bill Knoop, a turfgrass specialist at Texas A&M University, and county extension agent Bob Whitney in 1989.

"None of the textbooks or any of the research papers ever written suggest that the bagging of grass clippings is a necessary part of lawn care," says Knoop. "The return of grass clippings to the lawn and eventually to the soil has always been considered to be a naturally accepted part of maintaining a lawn by the true turf experts."

One man's trash...

Knoop calls grass clippings "a valuable resource," noting they contain over four percent nitrogen, about two percent potassium and around a half-percent of phosphorus, as well as lesser amounts of other essential nu-

Kurtz Brothers of Valley View, Ohio, uses this Scat windrow machine to recycle organic yard waste into saleable fill material.

trients. Clippings are between 20 and 30 percent protein and are rapidly attacked by bacteria and fungi, which cause their fast decomposition. Therefore, they don't lead to thatch accumulation.

Knoop's study involved 184 Fort Worth residents who followed his guidelines for mowing, watering and fertilizing. Each was given a Toro mulching mower for the summer. In a follow-up survey, homeowners said they achieved healthier, better looking lawns with 30 percent less effort than they did bagging grass during the course of a typical summer.

The PLCAA's "Grasscycling" program is designed to educate homeowners to leave grass clippings on the lawn. The campaign includes developing a community action program, technical guidelines for mowing, watering and fertilization, and a public relations strategy to promote public participation and support.

More study

News concerning the expansion of studies on clippings volume and the effect of returning organic matter to the landscape is becoming more frequent. Researchers at the Rodale Research Center in Kutztown, Pa., and Garden Way, Inc. have expanded a three-year test program to determine the benefits of returning grass clippings to the soil with a mulching mower versus the bagging of clippings with a conventional walk-behind mower.

'In today's increasingly environment-conscious market, using alternative disposal methods reinforces the industry's ecological concerns.'

Dr. Bill Knoop

Early indications from a large-scale study being conducted by Cornell University indicate that municipal composting is a safe and efficient practice.

"We are expanding the program because the disposal of grass clippings has become a major environmental concern," says Terry M. Schettini, horticultural coordinator. Initial research showed that mulch mowing returns nitrogen and other nutrients to the soil.

Early indications from a large-scale study on municipal composting indicate that it is a safe and efficient practice. So says Tom Richard, a Cornell University senior research specialist in the Department of Agricultural and Biological Engineering.

"We think we can show that composting municipal yard waste works, that it doesn't have to be offensive, and that it can save taxpayers money," says Richard. "We are seeing pesticide levels of just a few parts per billion, well below the FDA tolerance level for food. As far as pesticides are concerned, you could eat this compost."

Cornell researchers have estimated the average annual cost of composting to be $15 to $20 per ton, considered to be far below the escalating cost of other waste disposal methods.

Attention on mulching

Mulching mowers enjoyed a brief heyday in the mid-1970s. But a combination of early bad experiences, limited commercial application, and ignorance about their use and benefits kept them from gaining widespread acceptance among industry professionals. However, as the public and regulatory agencies continue to demand alternatives to traditional chemical controls and more is learned about the benefits of returning organic matter to the soil, mulch-

MEETING TOMORROW'S RECYCLING CHALLENGES

Kurtz Brothers Recycling Systems Inc. has a solution for people who don't know what to do with all the grass clippings and debris manufactured by a typical landscaping job.

The Ohio-based company—and other such commercial enterprises across the country—offers an efficient and cost-effective composting service to municipalities, landscapers and golf course superintendents.

In Ohio, H.B. 592 (which goes into effect in December, 1993) will prohibit organic waste from being taken to solid waste landfills. Such legislation has either passed or is pending in 11 states, most of them in the country's northeast corridor.

"We're going to be an option for that waste diversion," notes company vice president Tom Kurtz. "Some municipalities have started up their own composting operations or have gotten someone like our company to do it for them."

Waste shrubs, grass clippings and wood are either picked up by Kurtz or delivered to its composting facility. It charges the customer a tipping fee for processing, then composts the material. The compost is then returned to the environment by incorporating it into topsoil blends that the company sells to landscapers, excavators and golf courses.

The debris must be processed, windrowed and cured for three to six months before it is ready to be used as organic material. This is not an inexpensive process.

"We've spent upwards of $400,000 on equipment; plus site development is typically $15,000 to $25,000 an acre," Kurtz notes. "If we weren't in the soil business, we wouldn't have the built-in advantage of being able to use the compost, either.

"If we were to go into business just to compost, I don't know if the market for the compost would be there."

In order to open its organic composting site, the company had to buy property on Cleveland's south side, removed from residential areas because of odor considerations; develop the site to conform to EPA standards; buy what Kurtz calls "major league" recycling equipment; and invest in manpower, research and technology.

Composting is not an old science and industry, Kurtz notes. The technology is new, so his company is staying on the cutting edge by working closely with researchers at the Ohio Agricultural Research & Development Center in nearby Wooster. Drs. Harry Joitink and Ed McCoy continue to research the composting process; the expertise of Kurtz staffer and Penn State University graduate Sam Stimmel and company founder Melvin Kurtz is also drawn upon.

Kurtz composts lawn wastes for the cities of Brookpark, Maple Heights and Brecksville, Ohio, and markets 40,000 cubic yards of compost per year for the city of Akron. Soil mixed with composted matter has been used at Cleveland Municipal Stadium, Firestone Country Club, the Cleveland Metroparks, the National Park Service and the Galleria shopping mall in downtown Cleveland.

"The golf course and landscape markets are both exploding," Kurtz relates. "We look at this as being a hell of an opportunity. And there's more to it than just making money: we are prepared to meet the environmental challenges set forth by our law-makers."

The company's slogan? "The time to act is now."

Tom Kurtz: composting is "...a hell of an opportunity."

ing mowers are again being looked at.

Commercial mulching riding mowers with at least 18 horsepower are available from Jacobsen Division of Textron and Excel Industries. Manufacturers of smaller units include Ariens Company, Lawn Boy and Garden Way.

The clippings generated from side discharge mowers are too long and too clumped together to break down quickly. Mulching mowers, on the other hand, are built to re-cut grass blades several times before returning them to the soil/turf interface.

Mulching mowers accomplish this by incorporating a deeper mowing deck and using specially engineered multi-pitch or staggered blades. The blade and deck combine to both circulate the clippings and create a suction effect that holds grass upright. Once cut, clippings are suspended in the blade chamber and are repeatedly chopped into finer particles. These small particles are then returned into the turf near the soil level where they decompose quickly.

Landscapers not ready to invest in a full-fledged mulching unit should inquire about mulching plates that can be used on their present units. Mulching plates cover discharge chutes, forcing the clippings into the blades for a finer cut. **LM**

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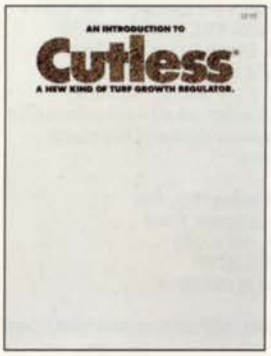

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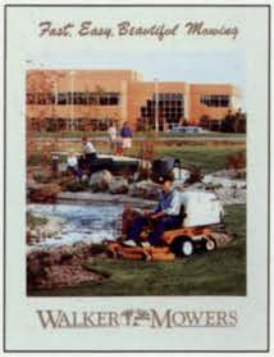

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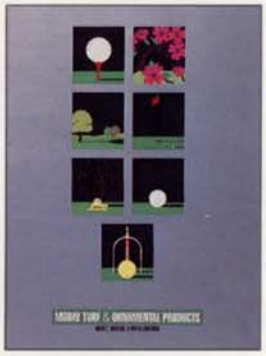

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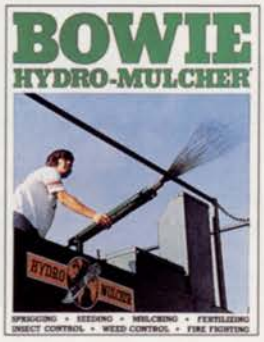

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THE CLOUDS BREAK

Welcome spring and summer rains nourished much of this year's seed crops for one of the best harvests in recent memory.

by Terry McIver, associate editor

Seed growers had high hopes for a good 1990 harvest after an average 1989, and this year they weren't to be denied. Company officials used words like "stable," "good yields" and "bumper crop" to describe the harvest of 1990.

The key factor in the yields was—of course—the weather, or more precisely, the well-timed periods of rain and sunshine. Ample rain fell on seed production areas in the Pacific Northwest, but the clouds broke over most areas just in time for healthy harvests.

Bill Young, sales manager of Lofts/Great Western, in Bound Brook, N.J., says Lofts enjoyed "the most ideal harvest we've had in years.

"The weather cooperated," says Young. "And except for the rain we had in early July, which slowed harvest down 5 to 10 days, the harvest has been excellent. We had satisfactory yields on perennial ryegrass, Kentucky bluegrass and turf-type tall fescue."

Another New Jersey-based company, Zajac Performance Seeds of North Haledon, also had a good summer.

"It was a good growing season," says Sandy Zajac, "with all the crops looking very good. This year we have

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TURF TYPE TALL FESCUE

VARIETY	MARKETER	AVAILABILITY
Adventure	Warren's	B
Apache	Turf Seed	B
Aquara	O.M. Scott	C
Arid	Jacklin/Olsen-Fennel/ Northrup King/ Vaughan's	B/B/B/B
Arriba	Northrup King	C
Avanti	Warren's	C
Bar-None	Lofts/Great Western	B
Bonanza	Proprietary/ VanderHave/Turf Seed	B/A/B
Brahma	Roberts	C
Carefree	Olsen-Fennel	B
Chieftan	Roberts	B
Cimarron	Lesco	B
Clemfine	Lofts/Great Western	B
Crew-Cut	Proprietary	C
Crossfire	Pickseed	C
Earthsave	Turf Merchants	C
Eldorado (dwarf)	Turf Seed	C
Emperor (dwarf)	Zajac Performance Seeds	B
ERA	International	C
Falcon	E.F. Burlingham & Sons	B
Finelawn I	Fine Lawn Research	B
Gala	International	C
Galway	Northrup King	B
Guardian	Roberts	B
Houndog	International	C
Hubbard-87	Hubbard Seed & Supply	C
Jaguar	Zajac Performance Seeds	B
Jaguar II	Zajac Performance Seeds	B
Maverick II	Pickseed	C
J-89	Jackon	C
Micro	Turf Merchants	C
Mojave	Olsen-Fennel	B
Monarch (dwarf)	Turf Seed	B
Murietta (dwarf)	Turf Seed	C
Mustang	Pickseed	C
Olympic	Turf Seed	B
Rebel	Lofts/Great Western	C
Rebel II	Lofts/Great Western	B
Rebel Jr.	Lofts/Great Western	C
Sapphire	VanderHave	C
Silverado (dwarf)	Turf Seed	C
Shortstop	Pickseed	C
Survivor	Seed Research of Oregon	B
Taurus	Turf Merchants	B
Thoroughbred	Pickseed	C
Thunderbird	E.F. Burlingham & Sons	C
Trailblazer	Lesco	B
Triathalawn (blend)	Turf Seed	B
Tribute	Lofts/Great Western	B

TURF TYPE TALL cont.

VARIETY	MARKETER	AVAILABILITY
Trident	Seed Research of Oregon	B
Trophy (blend)	Seed Research of Oregon	B
Twilight (dwarf)	Turf Merchants	B
Winchester	E.F. Burlingham & Sons	C
Wrangler	Jacklin/Lesco/Turf Merchants	B/B/B
SR 8200 (dwarf)	Seed Research of Oregon	C

KENTUCKY BLUEGRASS

VARIETY	MARKETER	AVAILABILITY
A-34 Ben Sun	Warren's	C
Abbey	O.M. Scott	B
Able 1	Warren's	C
Adelphi	Jacklin/J&L Adikes/ Northrup King/ Vaughan's	B/C/C/B
Alpine	Pickseed	C
Amazon	Jacklin	C
America	Pickseed	C
Aspen	Northrup King	B
Banff	Pickseed	B
Baron	Lofts/Great Western	B
Blacksburg	Turf Seed	B
Bristol	O.M. Scott	C
Bronco	Pickseed	B
Challenger	Turf Seed	B
Chateau	Fine Lawn Research	B
Chelsea	Turf Merchants	C
Cheri	Olsen-Fennel/Jacklin	B/B
Classic	Peterson/Jacklin	B/B
Columbia	Turf Seed	B
Compact	E.F. Burlingham & Sons	C

KENTUCKY BLUEGRASS cont.

VARIETY	MARKETER	AVAILABILITY
Coventry	O.M. Scott	B
Cynthia	VanderHave Oregon	C
Dawn	Lesco	B
Destiny	Jonathan Green	B
Eclipse	Jacklin/Peterson/ Vaughan's	B/B/C
Enmundi	Seed Research of Oregon	C
Estate	Roberts	B
Freedom	Jacklin/Vaughan's	B/B
Fylking	Jacklin	B
Georgetown	Lofts/Great Western	B
Geronimo	VanderHave Oregon	A
Glade	Jacklin/Vaughan's	B/C
Gnome	Turf Merchants	A
Haga	E.F. Burglingham & Son's	C
Huntsville	Jacklin	B
Indigo	Pickseed	C
Kelly	Northrup King	B
Liberty	Zajac Performance Seeds	B
Limousine	Roberts	C
1757	Lofts/Great Western	
Marquis	Roberts	C
Merion	Jacklin	C
Midnight	Turf Seed	B
Merit	Full Circle/Seed Research of Oregon	B/B
Minstrel	VanderHave	C
Monopoly	Peterson	C
Mystic	Lofts/Great Western	Fall, 1991
Nassau	Lofts/Great Western/ Jacklin	B/B
Nugget	Jacklin	B
Opal	E.F. Burlingham & Sons	C
Princeton	Lofts/Great Western	C
Parade	Northrup King/ VanderHave Oregon	B/C
RE 88	Turf Seed	B
Ram I	Lofts/Great Western/ Jacklin	C/B
Rugby	Northrup King/Turf Merchants	B/B
Sophia	VanderHave Oregon	C
Suffolk	Jacklin/Lofts/ Great Western	B/C
Touchdown	Pickseed	B
Trenton	Northrup King	B
Victa	O.M. Scott	B
Wabash	Jacklin	
SR 2000	Seed Research of Oregon	C
SR 2100	Seed Research of Oregon	C

Key:
A = Surplus
B = Adequate supply
C = Limited supply

Mike Robinson: Tall fescue yields are above average.

a bumper crop."

However, Zajac reports a slight demand downturn in the Northeast due to slow building starts, proving that there are a few bad seeds in every harvest.

"The turf-type perennial ryegrass production looks good following the favorable moisture and in spite of the hot temperatures of this spring," says Art Wick of Lesco.

Wick reports that "the 1989 crop was good and inventories of most varieties are stable." According to Wick, Lesco's proprietary bluegrasses were in reasonably good supply this spring. We've had just about ideal conditions sinece last fall," remarks Tom Stanley, marketing manager for Turf Seed , Inc.

"Production of the Penn varieties is very good," says Stanley. "It seems to be at least an average crop, and may be a *solid* average crop."

Stanley also credits favorable weather conditions. "The growers don't change fertility or herbicide practices from year to year," he expalins, "so the big variable was the weather."

Pricewise, bluegrass has been reported to be at about 20 cents less per pound thanks to good harvests, and ryegrass is down about a nickel.

"Prices of common bluegrass are soft," admits Gayle Jacklin, of Jacklin Seed Co., reflecting excellent yields.

"This has resulted in an increase in usage of common Kentucky bluegrass," Jacklin explains, as "seed

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ROUGH BLUEGRASS

VARIETY	MARKETER	AVAILABILITY
Colt	Pickseed	C
Cypress	Turf Merchants	C
Laser poa trivialis	Lofts/Great Western	C
Sabre	International	C

COMMON BLUEGRASS

VARIETY	MARKETER	AVAILABILITY
Delta	Jacklin	B
Kenblue	Jacklin/Lofts	B/A
Newport	Lofts/Great Western/ Jacklin	A/B
Park	Jacklin/Lofts	B/A
S-21	Jacklin	B
Garfield	Jacklin	B
98/85	Jacklin	B
85/80	Jacklin	B

WINTER OVERSEEDING BLENDS

VARIETY	MARKETER	AVAILABILITY
Alliance	Turf Seed	B
Dixie	International	B
Dixie Green tall fescue	International	B
Dixie Green + Sabre	International	B
Double Eagle blend	Lesco	B
Double Eagle + Sabre	Lesco	B
Eagle Blend	Lesco	B
Futura tee & fairway	Pickseed	B
Futura 2000	Pickseed	B
Marvelgreen Brand	Lofts/Great Western	B
Medalist 6	Northrup King	B
Medalist 7	Northrup King	B
Medalist 7 + Sabre	Northrup King	B
Medalist 300	Northrup King	B
Medalist 400	Northrup King	B
Medalist 400 + Sabre	Northrup King	B
Medalist 60/40	Northrup King	B
Par 3	Lofts/Great Western	B
Ph.D	International	B
Ph.D + Sabre	International	B
Playmate	Roberts	B
Problend	Lesco	B
Quartet	VanderHave Oregon	B
Spectrum	Turf Merchants	A
Sunbird	Turf Merchants	B
Symphony	E.F. Burlingham & Sons	B
Tara-Green	Hubbard Seed & Supply	B

WINTER OVERSEEDING BLENDS cont.

VARIETY	MARKTER	AVAILABILITY
Triple Play	Fine Lawn Research	B
Triples	Lofts/Great Western	
Ultima (blue tag)	Lofts/Great Western	B
V.I.P. Rye	Turf Merchants	A
Vintage Plus	Lesco	B
Winter Turf I	O.M. Scott	B
Winter Turf III	O.M. Scott	B/C
Winter Turf V	O.M. Scott	B
Winter Turf IX	O.M. Scott	B
Winter Turf X	O.M. Scott	B
Yahoo!	Northrup King	B

PERENNIAL RYEGRASS

VARIETY	MARKETER	AVAILABILITY
Accolade	O.M. Scott	B/C
Accord	Olsen-Fennel	B
Advent	Jacklin	B
Allaire	Turf Merchants	A
All*Star	Jacklin/Vaughan's/ J+L Adikes, Inc.	B/B/C
Asure	Lesco	B
Aquarius	Turf Merchants	B
Belle	E.F. Burlingham & Sons	C
Birdie II	Turf Seed	C
Blazer II	Pickseed	C
Brenda	VanderHave	B
Caddie	Northrup King	C
CBS (blend)	Turf Seed	B
Calypso	Roberts	B
Champion	Seed Research of Oregon	B
Charger	Turf Seed	B
Citation II	Turf Seed	B
Commander	Lesco	B
Competitor	E.F. Burlingham & Sons	B
Cowboy	Lofts/Great Western	B
Dandy	Northrup King	B
Dasher	Pickseed	B
Delray	Northrup King	
Derby	International	B
Dimension	VanderHave Oregon	C
Edge	Pickseed	C
Envy	Zajac	C
Fiesta II	Pickseed	B
Gator	International Seeds	C
Goalie	Northrup King	C
Jazz	Pickseed	B
Laredo	Turf Merchants	A
Lariat	Turf Merchants	C
Legacy	Lesco	C
Lindsay	International Seeds	C
Lowgrow	Pickseed	C

PERENNIAL RYEGRASS cont.

VARIETY	MARKETER	AVAILABILITY
Manhattan II	Turf Seed/Turf Merchants	B/B
Mondial	VanderHave	B
NK 200	Northrup King	B
Nova	VanderHave Oregon	B
Nomad	Turf Merchants	B
Omega II	Zajac Performance Seeds	B
Ovation	O.M. Scott	B
Palmer	Lofts/Great Western	B
Patriot	Turf Merchants	B
Pebble Beach	Fine Lawn Research	C
Pennant	E.F. Burlingham & Sons	B
Plus	Olsen-Fennel	B
Ranger	VanderHave Oregon	B
Regency	Lesco	B
Repell	Lofts/Great Western	C
Regal	International	B
Prelude	Lofts-Great Western	B
Riviera	Roberts	B
Rodeo	Turf Merchants	B
Saturn	Turf See/Zajac Performance Seeds	B/B
Sheriff	VanderHave Oregon	B
Stallion	Fine Lawn Research	B
SR4000	Seed Research of Oregon	B
SR4100	Seed Research of Oregon	B
SR4200	Seed Research of Oregon	C
246 Sunrye	Turf Seed	B
Target	Northrup King	B
Vantage	Proprietary Seeds	B
Vintage 2DF	Lesco	B
Yorktown II	Lofts/Great Western	C

CREEPING RED FESCUE

VARIETY	MARKETER	AVAILABILITY
Cindy	International	B
Dawson	VanderHave	C
Fortress	Turf Seed	C
Jasper	Pickseed	C
Shademaster	Lesco/Turf Seed	B/C
Vista	Zajac Performance Seeds	C

CHEWINGS FESCUE

VARIETY	MARKETER	AVAILABILITY
Atlanta	VanderHave Oregon	B
Camaro	Fine Lawn Research	1991
Center	Turf Merchangs	B

packaging programs which formerly had a competing commodity as their primary ingredient are now changing back to Kentucky bluegrass."

Mike Robinson of Seed Research of Oregon had good news to report in the tall fescue department. "We had a dry fall last year, and some very hot weather during pollination," explains Robinson, adding that tall fescue yields were above average.

Jacklin of reports that there has been "a tremendous increase" in turf-type tall fescue acreage.

"This year, there will be an adequate amount of tall fescue available," says Jacklin, "with selected shortages on some of the newer, elite dwarf types.'

'Seed production acres are up and very good yields are anticipated.

—Joe Churchill
Northrup King

Both Wick and Robinson say the fine fescue crop was light. "The 1990 Oregon fine fescue crop looks thin," says Wick. "Many of the fields are four years or older, which may reduce yields. Coupled with hot weather stress early this spring, these factors point to a 'short' crop. No one expects anything above an average crop of fine fescues."

Churchill says yields on perennial ryegrasses came in "as expected, if not a little better. One field of Dandy

Fine Fescue Defined

What are Fine Fescues and why are they so important to turf managers?

Our Fescue turfgrasses are part of most every park, golf course, industrial campus, athletic field, condominium commons and home lawn from the transition zone, Northward.

But, many people are not aware of that. Perhaps we are the most overlooked turfgrass in existence.

We feel that Fine Fescues are the best turf investment a grounds manager can make. And, we'd like to point out *why.*

Fine Fescues are *real* grass. And, as with all living things, there is give and take. Sure, our Fescues take water and some maintenance, but they are better *givers.* Our natural grass turns noxious gases into oxygen and is a natural air conditioner for turf users.

We feel that while artificial turf has its place on locker room floors, it has no business where *real* people work, play and relax. Our grass is just *naturally* more refreshing.

Our Chewings (Festuca rubra commutata) and creeping red (Festuca rubra rubra) Fescues are rather unique when compared with other turfgrass species. Although they have most of the features of other cool season grasses, Fescues have several distinct benefits worth noting.

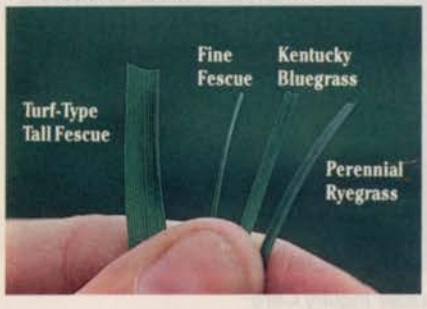
Fine Fescues are low maintenance. Our varieties require less fertilizer and water than other species. That's a big *plus* at today's water, fertilizer and manpower prices.

Fine Fescues fare well around trees. It seems our grass doesn't need as much sunlight, water and nutrients as other turfgrass species. Because Fescues don't compete with trees for these important elements, they're called *shade grass.* Our Fescues don't creep into flower beds, nor crowd out other species in a mixture.

And, because they're Oregon grown, our Fescues germinate, adapt and perform better than imported types.

You'd expect to pay a fortune for such a turfgrass, but Fescues are quite reasonable

Why don't Fescues cost a great deal? Fine Fescues have been around a long time and have been changed very little. Why mess with a good thing? While other former "pasture" species are coming closer to looking like our old standard; receiving notoriety for their "improvements" and enjoy the price increases associated with the word "new," our Fescues have continued what they do best . . . support the up-and-comers. But then, Fine Fescues were meant to be stepped on.



Fine Fescues are Ideal for Recreation, Sports and Leisure

Not only do Fine Fescues excel alone or in perennial ryegrass/Kentucky bluegrass mixtures on horizontal playing surfaces; Fescues are excellent for low maintenance areas like berms, roadside banks, ski slopes and hilly spots that don't retain moisture. So, you see, Fescues are ideal all-around grasses for *all around* your recreation and sports facility. Their low maintenance requirements offer *turf managers* a chance for a little more leisure . . . and there's nothing wrong with that.

For a series of nine tech sheets on Oregon grown Chewings and creeping red Fescues, call or write:

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perennial ryegrass cleaned out at 2,450 pounds per acre, a great increase from what would usually be 1600 pounds per acre."

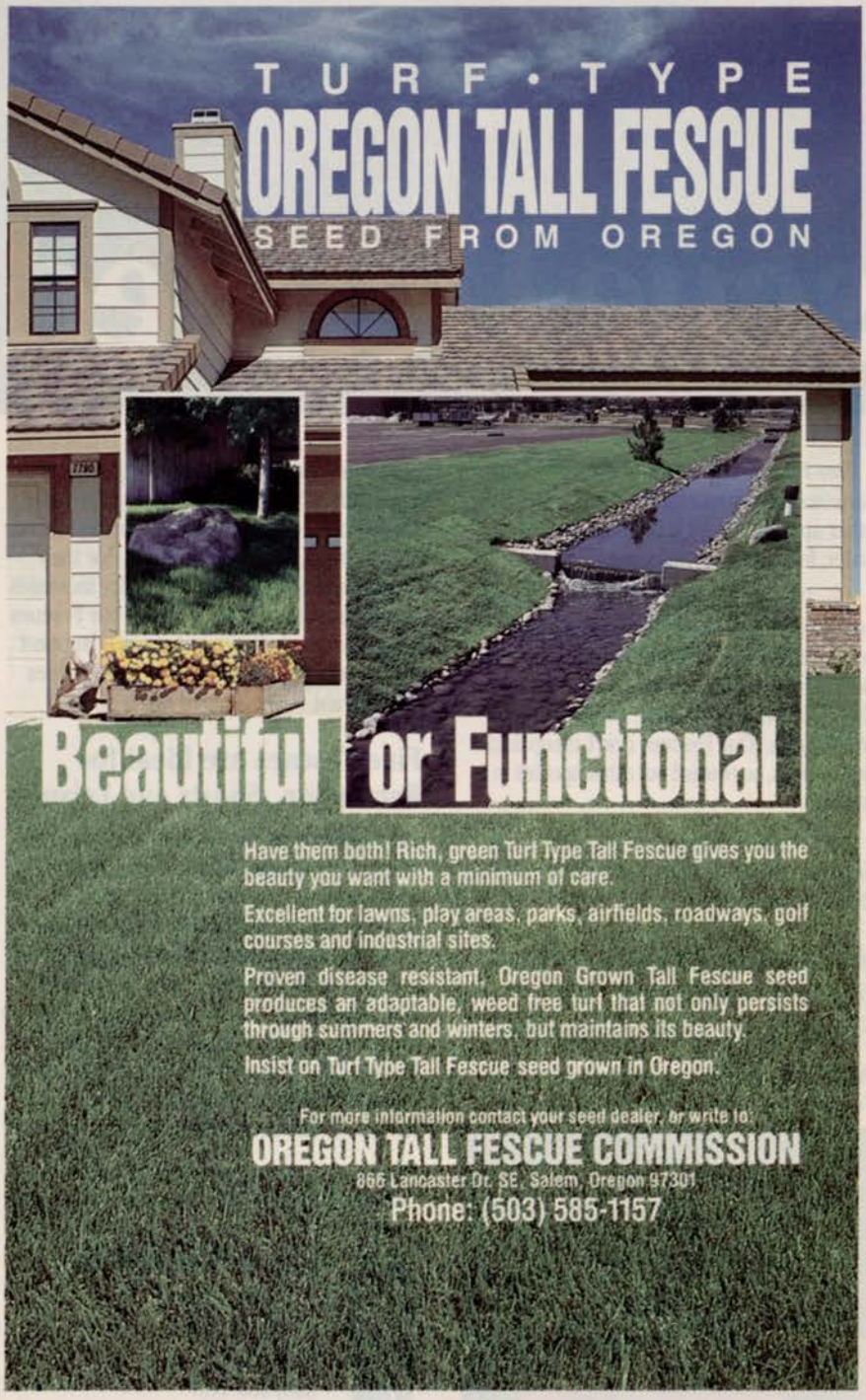
According to Steve Tubbs, vice president/general manager of Turf Merchants, Inc., the harvest in general was good, except for the Madras area, where a good portion of the proprietary bluegrasses are grown. Tubbs says yields in that area were off about 30 percent. "In fact," says Tubbs, "one major proprietary is being allocated. The common bluegrass in Washington and Idaho was out-yielding the proprietaries in Madras."

"The bentgrass supply has finally caught up with demand," says Tubbs. "There are no shortages in VIP creeping bent blend, and no price erosion except in the commons like Seaside."

Tubbs says the seed market is in a near-price war situation.

"People are getting more aggressive," says Tubbs. "Companies that have never been guilty of price cutting are (cutting prices) for various inventory and cash flow reasons."

continued on page 46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CHEWINGS FESCUE cont.

VARIETY	MARKTER	AVAILABILITY
Dawson	Northrup King	C
Enjoy	International	B
Epsom	VanderHave Oregon	C
Jamestown	Lofts/Great Western	B
Jamestown II	Lofts/Great Western	NA
Jasper	Pickseed	NA
Koket	E.F. Burlingham & Sons	B
Longfellow	International	C
Mary	VanderHave Oregon	C
Roulette	Olsen-Fennel	C
Shadow	Turf Seed	B
SR 5000	Seed Research of Oregon	C
Victory	Pickseed	B
Waldorf	VanderHave Oregon	B

HARD FESCUE

VARIETY	MARKETER	AVAILABILITY
Attila	Turf Merchants	B
Aurora	Turf Seed	B
Crystal	Lofts/Great Western	B
Reliant	Lofts/Great Western	B
Scaldis	VanderHave Oregon	C
Silvana	VanderHave Oregon	C
SR 3000	Seed Research of Oregon	B
Spartan	Pickseed	B
Valda	International Seeds	C

SHEEP FESCUE

VARIETY	MARKETER	AVAILABILITY
Azay	Pickseed	C
Bighorn	Turf Seed	C
M8-86	Jacklin	C

ANNUAL RYEGRASS

VARIETY	MARKETER	AVAILABILITY
Common	Pickseed	A
Concord	Olsen-Fennel	B
Gulf	Proprietary Seeds	B

BENTGRASS

VARIETY	MARKETER	AVAILABILITY
Carmen	VanderHave Oregon	C
Cobra	International Seeds	B
Emerald	International Seeds	B
National (creeping)	Pickseed	B
Penncross	Northrup King/Turf Seed	B/B
Penneagle	Northrup King/Turf Seed	B/B
Penlinks	Northrup King/Turf Seed	B/B
Pennway	Northrup King/Turf Seed	B/B
Penntrio	Northrup King/Turf Seed	B/B
Providence	Seed Research of Oregon	B
Putter	Jacklin	B
SR 1020	Seed Research	B
Tracenta	VanderHave Oregon	C
V.I.P. blend	Turf Merchants	A
Southshore	Lofts/Great Western	Fall, 1991

FINE FESCUE

VARIETY	MARKETER	AVAILABILITY
SR 3200 (blue fescue)	Seed Research of Oregon	C
Dawson red	Northrup King	B
Dover chewings	Northrup King	B
Ruby creeping	Northrup King	B
Scaldis hard	Northrup King	B
Flyer creeping red	Fine Lawn Reseach	C

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Planted seeds yield new varieties

Northrup King has begun to market two new perennial ryegrasses, Andy and Target. Joe Churchill says both contain endophytes, and will exhibit good insect resistance. Both have a dark green color described as "exceptional," and good tillering capability.

Sheri Burlingham reports that **E.F. Burlingham & Sons** has begun production of Opal, the latest Kentucky Bluegrass to come from the breeders of Naga and Sydsport. Supply of Opal is very limited. Opal is listed in the national trials as WWAG 495.

Lesco's Art Wick says the new Legacy dwarf perennial ryegrass is a new "elite" variety slected for its dwarf growth habit, fine texture and very dark green color.

According to Wick, Legacy exhibits improved resistance to leaf-spot and brown patch, and contains a 94 percent endophyte level, providing resistance to above-ground feeding insects.

Wick also reports that Lesco is evaluating new experimental tall fescues for regional use. "Several experimentals, especially targeted for the Southeast, are in their final stages of evaluation and release of two varieties from this program is expected in 1990," says Wick.

From Seed Research of Oregon comes a favorable report on SR 2000, a Kentucky bluegrass developed to blend with turf-type tall fescues. **Mike Robinson** says the variety is very compatible with the fescues, yet can also do well on its own. "It's lower growing and very attractive," says Robinson, "with nice density, color and leaf texture."

Crusader is a Seed Research variety available in greater quantities next year. Robinson describes Crusader as a high endophyte mixture that is very low maintenance. The mix consists of SR 4200 perennial ryegrass, SR 3000 hard fescue, and SR 5000 chewings fescue.

Cobra creeping bentgrass now appears on golf course spec sheets for tees and fairway, says Doug Toews of **International Seeds**. Toews says Cobra can also be used on greens as a permanent grass or for overseeding. Valda hard fescue and Derby Supreme perennial rye are new releases from International.

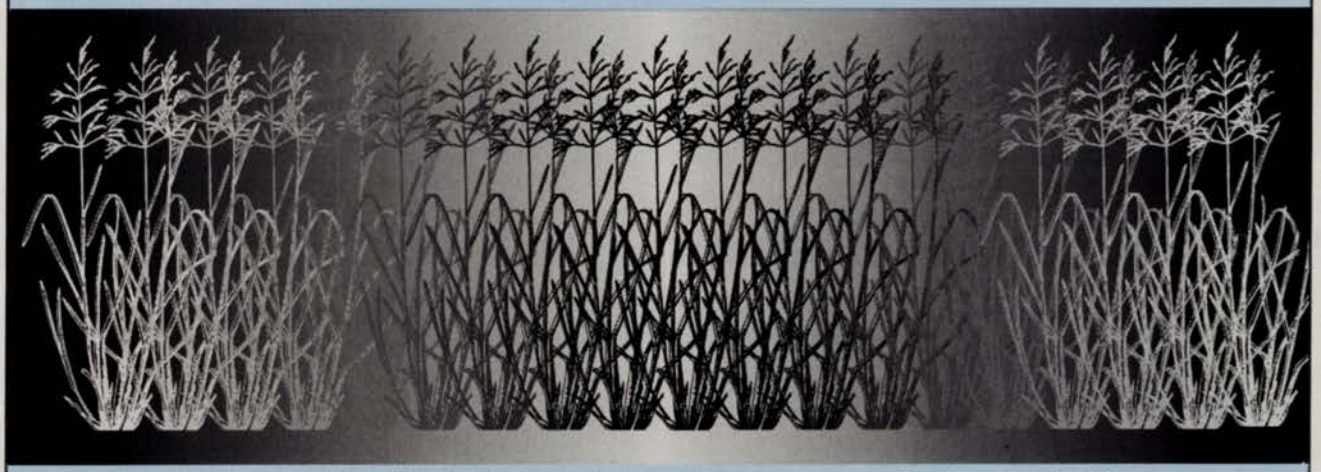
Scott Patterson of **Peterson Seed Co.** tells us that Monopoly bluegrass was rated No. 1 in Kentucky and No. 2 in Iowa, in the USDA's low maintenance trials.

"With the turf-type tall fescues, we've taken a grass that we've known for years to have good drought tolerance, but has never been overly attractive," says Toews. "So now we have varieties that are darker in color, more attractive for home lawns, and that also work in golf course bunkers."

Lofts Seed, Inc. recently introduced "an unusually aggressive" new Kentucky bluegrass. The company reports that P-104, marketed under the name Princeton, is so vigorous that only between 5 and 15 percent completely dominates a sod blend in two-three years. Princeton, says Lofts, is the only commercial bluegrass that combines aggressive growth with high quality.

Jacklin Seed Co. reports that Advent, a new release from Rutgers University, is a new class of perennial ryegrass: slow growing, low-growing, and very dense. It's also very heat and drought tolerant and has high disease resistance. Gayle Jacklin says Advent is good for overseeding dormant winter grasses and can be used on the entire golf course.

From **VanderHave Oregon, Inc.** comes word of Sapphire, a new release turf-type tall fescue, which will be in adequate supply until 1991. James Butala of VanderHave also reports that Dimension, a new turf-type perennial ryegrass is also available, but quantities are limited at this time.



Customers of **Zajac Performance Seeds** have two new varieties to choose from, says Sandy Zajac: Vista, a spreading red fescue, and Envy, Zajac's new perennial ryegrass.

Bill Junk reports that Flyer creeping red fescue from **Fine Lawn Research**, Dublin, Ohio marks a new generation of that variety, usually referred to as the turf market's "poor cousin." Flyer is a low-growing turf-type spreading red, capable of producing an attractive, dense, fine-textured turf with a dark green color. It has performed well in U.S. turf trials, and exhibits excellent resistance to powdery mildew and red thread.

New from Turf Seed, Inc. is Penntrio, a certified blend of Penncross, Pennegle and Pennlinks.

"There has been a demand from superintendents for a certified bentgrass blend," explains marketing manager **Tom Stanley**. "The broader genetic base from the three-way blend," says Stanley, makes Penntrio more adaptable to wide range of conditions."

—Terry McIver□

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All the elements of a good low-maintenance landscape are combined in the Sea Island, Ga landscape. Note the native live oaks, the excellent use of ground covers, and the use of durable, adaptable plants.

LOW-MAINTENANCE LANDSCAPING

Rising costs, shrinking budgets and increasing regulations have forced many landscapers to shift toward creating low-maintenance landscapes.

by Gary L. Wade, Ph.D., University of Georgia

If asked to name a practice that best describes the current and future trend in the landscape industry, I would say, "low-maintenance."

Rising costs, reduced budgets and a new environmental awareness have triggered a sort of renaissance movement in the landscape industry; a time for breaking away from some of the more labor-intensive landscape practices in favor of more low-maintenance alternatives.

Tougher regs

Still another factor forcing many to take a closer look at low maintenance options are the tough environmental issues facing the landscape industry. Issues like pesticide use, groundwater contamination, water conservation, and waste management are not going away.

Ironically, the commercial landscape industry is cashing in on the environmental movement with all sorts of new services and marketing techniques, such as xeriscaping. As a result, the entire landscape industry has benefitted because the public no longer perceives the landscape industry as a villain but a leader in water conservation.

More with less

Perhaps the greatest challenge in low-maintenance landscaping is to cut costs without sacrificing the aesthetic quality and beauty of the environment. One of the most visible examples of how this is being done is the extensive wildflower projects along our highways.

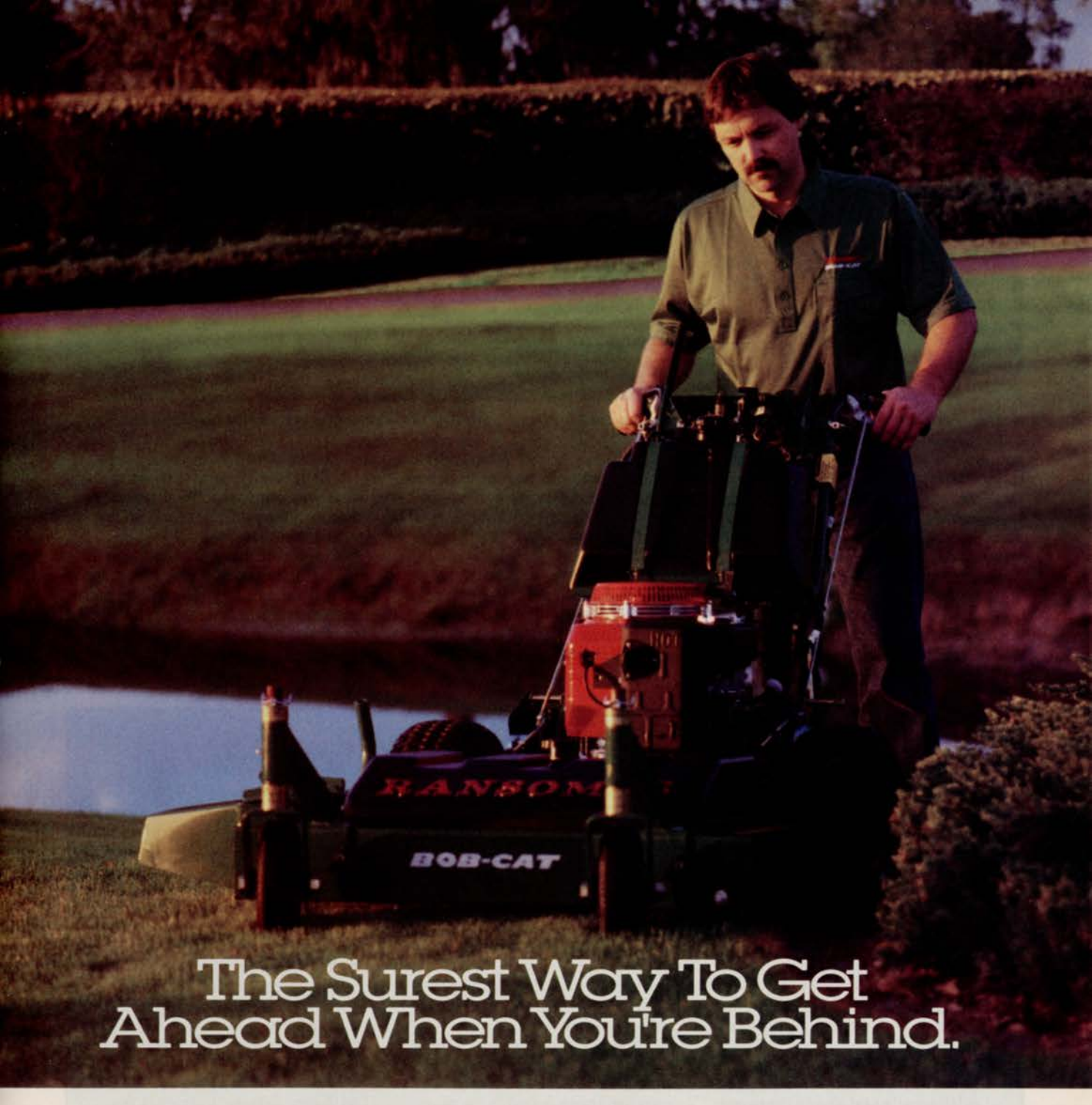
Commercial landscapers are also using the no-mow, meadow gardening approach on highly erodible banks and as an alternative to turf areas.

Low-maintenance landscapes don't just happen. They require careful consideration of low-maintenance concepts in all three phases of the overall landscape scheme, from design to installation to follow-up and management.

The design phase

The design phase is probably the most critical time to implement low-maintenance concepts. Follow-up management needs largely depend on the initial design.

Take into account the plants' adaptability to the intended site and their maintenance requirements. Overplanting during installation is a



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Native *Verbena tenuisecta* and *Verbina rigida* provide five to six months of continuous low-maintenance color.

common mistake that results in maintenance nightmares as plants mature.

Sometimes a high-maintenance landscape is inherited at the management phase. A formal garden filled with neatly sheared hedges, topiary, extensive rose plantings, large beds of annuals and espaliers on every vacant wall, can be a maintenance monstrosity. One possible solution is to use durable varieties of annuals that don't require frequent attention, tough herbaceous perennials, pest-tolerant rose cultivars and chemical plant growth regulators on formally pruned plants.

Low-maintenance examples

During the design phase, *don't fight Mother Nature.* Capitalize on natural surroundings by preserving native areas and nature's own low-maintenance contribution to your design.

If left totally undisturbed, native areas will require no fertilizer or pruning, and they will have a high degree of pest tolerance.

Some thinning or adding a few flowering trees and shrubs for color is acceptable, but keep the future maintenance requirements in mind when you make changes.

Turfgrass is a very functional plant

Creating low maintenance landscapes

Here are some additional considerations to keep in mind about low-maintenance landscapes:

Select plants adapted to the site and the imposed stresses of the environment. In addition to texture, form and other artistic features of a plant, consider its cold hardiness, drought tolerance, pest tolerance, water needs, and pruning requirements.

Select plants that are aggressive enough to compete with weeds and shade them out as much as possible. Trees that create a litter problem, such as sycamore, sweetgum, crabapple and female ginkgo, should be planted away from public areas.

Concentrate seasonal color in areas where it can be easily maintained. Make beds narrow enough so that all the flowers are within arm's reach and don't have to be trampled by maintenance workers. Consider flowering shrubs and herbaceous perennials as alternatives to demanding annuals.

Note the foot traffic patterns in public areas and design around them. The shortest distance between two points is a straight line, and the public is going to take a path of least resistance, even if it means trampling plants or turf.

Design plant beds with wide sweeping curves. Think about the equipment you have to maintain the landscape before designing those little islands with sharp curves.

Remove construction debris and mortar from new construction sites before planting. Removing these hazards to plant growth will prevent maintenance problems later on.

Determine soil drainage. Dig a hole the size of the typical planting hole, fill it with water and watch how it drains. If water is still standing in the hole four hours later, the soil has a drainage problem that should be corrected before planting.

Thoroughly cultivate the soil when planting. This will improve soil structure and encourage root growth establishment

Give ornamentals space. When planting solitary ornamentals, dig a large hole, twice as wide as the root ball.

Plant annuals and herbaceous perennials on elevated beds to assure good drainage and to enhance their visual impact. Direct seeding of durable annuals, like marigolds, zinnias, and cosmos will reduce labor costs of transplanting.

Use slow-release fertilizers. Slow-release fertilizers placed in the planting hole are a cost-effective way of reducing follow-up maintenance requirements. Some slow-release fertilizers release nutrients for up to 24 months after application.

Excess fertilizer results in excess growth that demands more frequent pruning and more water, and most landscapes are over-fertilized, since they can probably be maintained with 1 to 2 pounds of nitrogen per 1000 sq. ft. each season.

Apply fertilizer at the beginning of the growing season, particularly if it contains a slow-release nitrogen source, such as ureaform, ammoniacal nitrogen, or IBDU.

—Dr. Wade

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*Consult your operator's manual for safety instructions when mowing hills.

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J-8-0

in the landscape for erosion control and durability in recreational areas, but turfgrass also has the highest seasonal maintenance requirement of any plant in the landscape, aside from annual flowers.

Trends in turf

The trend today is to use small islands of high-quality turf in the highly visible public areas of the landscape, and durable low-maintenance groundcovers whenever possible to replace turf.

Mow often enough so that no more than one-third of the leaf tissue is removed at any one mowing. The closer you mow, the more freqently you'll have to mow.

The idea of letting certain warm-season turfgrasses go dormant during drought is not acceptable to most commercial clients who are paying top dollar for a green landscape.

One of the key components of xeriscaping is to group plants in the landscape according to water needs. A low water-use zone, for instance would contain plants that could survive, once established, on what nature provides, while plants in the moderate water-use zone would be watered only when necessary.

This elaegnus hedge is treated with Atrimec, which suppresses eight to ten weeks of growth with one application.

Zoning areas of a landscape in terms of maintenance requirements helps streamline follow-up maintenance practices.

Use shade to cool

A shaded landscape can be as much as 20° cooler than a similar landscape in full sun. It also requires less water than one in full sun.

Plants in the shade will generally grow slower than those in the sun, reducing maintenance needs.

Look closely at the building plan for hardscape surfaces, like concrete patios, walks, and other heat-radiating surfaces, and shade them whenever possible.

Select plants that will not overgrow their planting site and space them according to their mature size.

It's common to see plants like English laurel and rotunda holly being planted on two-foot centers when they should be spaced at least five feet apart. This is called "overselling" in the commercial landscape industry. Before long, the plants grow together and become thick and dense. Pests become a problem, and the plants begin losing their individuality as they are

continued on page 54

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shared en masse.

Mulches are a must in a low-maintenance landscape. They conserve water, insulate plant roots from extreme temperatures, help prevent weeds, reduce certain soil-borne diseases, and provide a buffer zone that prevents plant abuse from landscape equipment. Also, a good herbicide program and regular mulching will reduce the need for hand weeding.

Fine-textured organic mulches, like bark mini-nuggets or pine straw, are among the best for water conservation. Rock mulches absorb and radiate heat, causing unnecessary heat load and water loss in the landscape.

Install efficient irrigation systems. Drip irrigation and micro-sprinkler irrigation are much more efficient in water use than sprinkler irrigation.

Sprinkler systems should have matched precipitation rate nozzles for even distribution of water over the irrigated area. Low-cost rainfall sensors will prevent an irrigation system from operating during rainfall. Irrigation systems on time clocks should be adjusted weekly according to rainfall patterns, time of year and water needs.

Don't shear

Shearing is not only stressful to the plants but also results in a thick, dense outer canopy, increased pest problems, and water-demanding new growth. It is among the most costly and highest maintenance practices in a landscape. The more you shear, the more you will need to shear to maintain a desired formal shape.

Chemical growth regulators may, in certain instances, offer a cost-effective alternative to pruning. They are particularly useful on formally pruned hedges or excessively vigorous shrubs. Growth can be suppressed for 12 weeks to 24 months with one application, depending on the product used.

Use of PGRs

Chemical edging with PGRs by spraying a four-inch swath of turf along shrub beds will reduce the cost of mechanical edging. PGRs are also available that will suppress sucker growth on plants like crepe myrtle and crabapple. Still other PGRs cause fruit abortion from messy trees, to prevent trees from growing into power lines, or to maintain the size of street trees.

Finally, computers are revolutionizing the landscaping industry. Cost accounting, plant locator programs, cost estimating and job bidding programs are now available to the landscaper to make his job more efficient, more accurate and less costly. **LM**

Dr. Wade is an associate professor and extension horticulturist with the University of Georgia Cooperation Extension Service in Athens, Ga.

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*Scores selected from 1984 National Kentucky Bluegrass Test; Moscow, ID. Tested as IDSL39

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Circle No. 138 on Reader Inquiry Card

TAKE AIM AT SUCCESS

Success can be measured once you set and attain business, family and community goals.

by E.T. Wandtke

It's not easy to define success. The best definition might include success in four areas: personal finance, family life, company recognition, and public recognition.

What is your definition of success? Have you considered these four areas in charting your success? This article will give you a simple system to assist you in staying focused on your personal success goals.

Financial questions

Many individuals in the lawn/landscape industry have failed to set financial success goals, and therefore cannot determine their progress.

Some business owners define success as being able to take time off in the off-season and not worry about cash. How much cash you need to be able to take considerable time off without worrying about the business depends on your personal spending needs. Most financial planners indicate to their clients that at least one year's cash reserve should be enough.

Another measure of financial success is being able to take time off from daily business duties to enjoy time doing other activities.

What hobbies or activities do you engage in when you're away from the office? Have you started to wonder what you would do if you ever sold your company?

These questions can be answered if you have set a financial goal which will provide you the resources necessary to take time off or retire early.

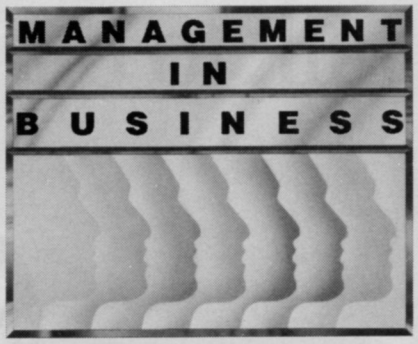
Set a personal financial goal for yourself that you want to achieve by the end of 1990. Do it now, and write it down.

Don't neglect family

Starting a lawn or landscape business and making it profitable requires that you devote lots of time to all aspects of the business. This often means time away from your family.

How much time have you been spending at home? Do you leave for home early on Friday night? Do you really have to go to work on Saturday and Sunday?

Some suggestions to help foster stronger family relationships are: including your spouse in attendance at dinner meetings or at national conventions, or establishing a strict one-night-a-week-out-alone policy rather than a weekend evening.



To stay in touch with the rest of your family, you may consider having them work in the business when they are old enough. Attend the children's school functions or volunteer to help coach activities your children take part in. And take the time to get out of town with the whole family twice each year.

Meeting business goals

Most companies consider themselves successful if they meet or surpass their budgeted profitability for the year. However, many of you may not have set profitability goals for the year. How then can you determine if you have been successful?

Some measure their business success by how well they exceed the national standards of performance for a company of their size.

While this is one way of comparing your performance, it does not take into consideration the fact that your mix of service offerings may be different from the company you are comparing yourself to.

Another measure of business success is the continued financial viability of your company. This would mean that you completed the year with a profit, with positive cash flow, and have increased your customer base over last year.

Some individuals measure their business success by having reached certain milestones of volume performance. Being a million dollar company, or being recognized as one of the largest companies in the green industry is a measure of success for some owners.

All of these business and financial measures of success can be used in any green industry company. The best way to use them is to write your company's financial success down and then work on it for the year.

In the public eye

For most, this measure of success comes either in the industry or in the community. Being selected an officer in one of the green industry organizations such as ALCA, PLCAA or PGMS would be considered a sign of success by many. Others require more, like being recognized by the community as a successful business person.

Public recognition often requires involvement in public service, which then requires a commitment of time and possibly money.

What time and financial commitment can you afford? Would you like to have others in your company involved? These are some of the questions you will need answers to in order to set your goals for determining community recognition and success.

Do it now!

Take time to write down your personal definition of success. Give yourself a target to shoot for. Quantify all items in order to be able to measure your degree of success.

Place a three-by-five card with your success goals on the mirror where you shave in the morning. Give a copy of your own definition of success to a good friend. Ask him to check with you from time to time to help keep you on track.

Once you have taken the time to write down your personal definition of success, you will become more focused in working to achieve the success you seek.

Next year at this time, you will be a success—or at least you will know what you need to work on to get there.

LM

Ed Wandtke is a senior consultant with AGMA, Inc. in Columbus, Ohio. He focuses on operations and financial questions.

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Circle No. 213 on Reader Inquiry Card

Waterscape designs look like nature's own

New designs, technology and construction methods have elevated the craft of waterscaping to new heights of form and beauty.

Some of the most artful strides in the craft are being made by MACAIRE, a Los Angeles-based waterscaping company, led by president Ken Macaire.

Macaire, a professional landscaper since 1969, has operated his own landscaping company and retail nursery business. He's now brought his talents and experience in landscaping to the fore, and has made waterscaping a specialty.

And it's a specialty that's more in demand by residential developers, hotels and golf course designers.

The difference between Macaire's designs and those of most other rockscapers is that Macaire individually designs dramatic and innovative rockwork and waterscapes that are geologically and regionally accurate for the surrounding environment.

"Quite often," says Macaire, "companies have gotten by with their name [recognition], and by pouring a whole lot of water over a rock.

"One architect I know says people aren't going to judge rockscapes like they used to. People aren't going to accept a whole lot of water and say 'Gee, that's a beautiful water feature.' Companies are going to have to make some tasty designs."

Macaire's designs for residential and commercial projects are seen in locations throughout Southern California, but the company is not restricted by state lines or even great distance. The King of Zaire was recently a client, and work in Japan appears to be on the horizon.

"The look of natural beauty" is what Ken Macaire achieves with custom-designed waterscaping. This project was installed at the Mulholland Estates in Beverly Hills.

Attention to detail

Realistic waterscape designs by Macaire include:

- individually designed features, not just a redundant collection of castings;
- dramatic, innovative designs that are true to nature;
- leach lines, creating many levels of water flow;
- sculptured rockwork, integrated with natural stone.
- geologically and regionally accurate designs;
- plants designed directly into rockwork.

Wes Mason, project manager for Sumitomo Construction in Los Angeles, hired Macaire to install a boulder pond for the Los Angeles Christian Reform Church, and was impressed with the waterscape's natural look.

"It's as real-looking as anything I've seen,' says Mason, who thinks the Macaire waterscaping even rivals artificial stone work seen at tourist attractions such as Disneyland or Knotts Berry Farm. "They couldn't begin to touch Ken's work," states Mason. "If more people saw how realistic it was, they'd want to use it in lieu of other things. It doesn't look artificial, it looks real."

Macaire waterscaping projects usually require at least 2,000 square feet of rock work. This can include a diving rock, water slide and a retaining wall to recirculate water.

"There's no question about it; the look is beautiful; we're very happy with the way it looks," says Steve Dubow, who hired Macaire to install an outdoor spa waterscape at Dubow's new residence in Rancho Palos Verdes.

"It's very difficult to tell what is real and what is not," Dubow claims. "The Macaire people are very knowledgeable, and are very good crafts people."

Quality waterscape designs by Macaire aren't cheap, given that all designs are made by hand and require two months installation time. "Usually, rock for a boulder pool costs at least as much as the pool itself and possibly 20 percent to 30 percent more," Macaire explains. "Theoretically, "the man installing the pool is there for five days. We're there for two months."

Macaire estimates a typical project will cost from between $30,000 to $60,000.

The Macaire waterscaping process consists of six steps.

First, miniature clay models are made to provide a blueprint for construction. Steel rods are then shaped to form the basic rock outline. A cement coating is then applied, and the boulders are embossed with textured impressions. Wall panels are installed last, and the rockwork is painted to match the surroundings. **LM**

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With NITROFORM,® nitrogen is released slowly throughout the growing season and remains available to roots for one year or longer–when other nitrogen sources have been used up. Ideal for sandy soils where low micro-organism levels and leaching are often a problem. It also works well in clay soils since it stimulates micro-organisms that decompose thatch. Available in both dry and liquid formulations and applied at recommended rates with conventional equipment, NITROFORM won't burn top-growth or roots. So treated turf is subjected to less stress. As a result, it grows stronger and needs fewer pesticide applications.

With dual-action NUTRALENE,™ you can count on quick grass greenup in spring plus sustained release throughout one growing season. Unlike other controlled-release nitrogens, NUTRALENE is not solely dependent upon soil temperatures, moisture, coating or particle size for its optimum release pattern. Applied in chip or granular form, the dual release of NUTRALENE encourages outstanding growth response–even in early spring or late fall. In hot weather, its reduced leaching characteristics enable uniform, sustained feeding to continue.

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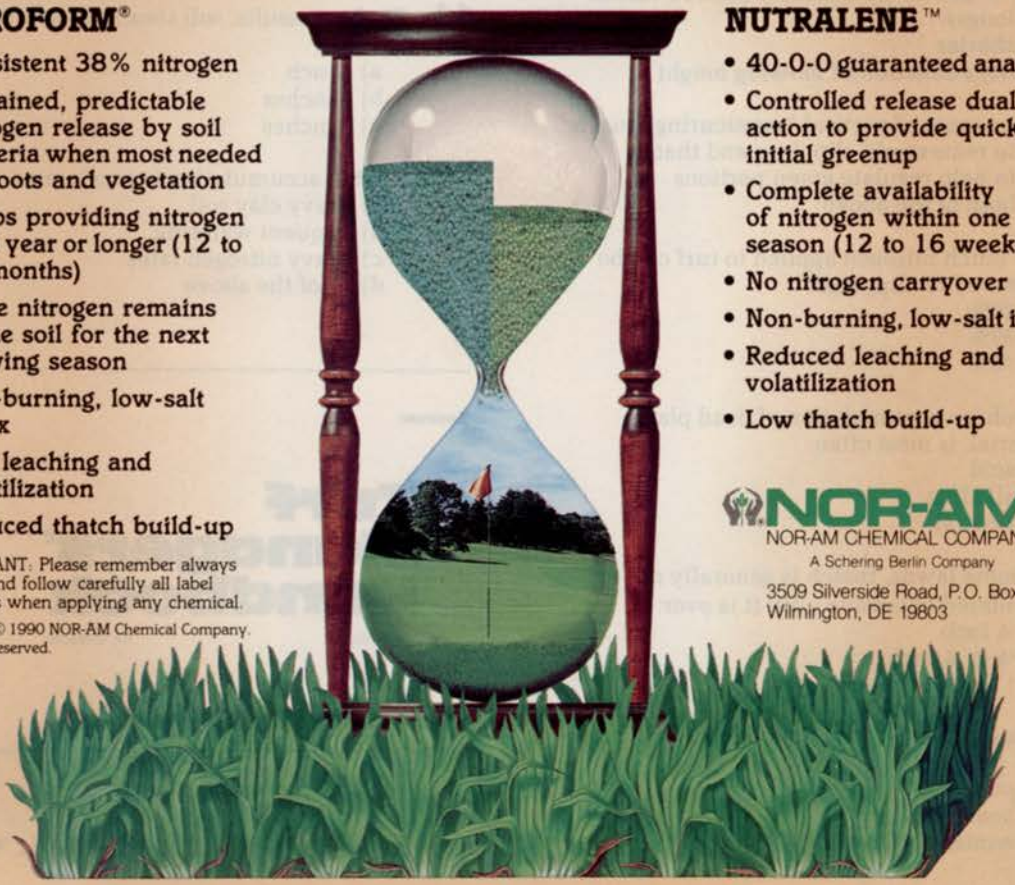

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QUICKIE-QUIZ

Mowing and manicuring turf areas

An idealized range of mowing programs

Program	*Clippings*	*Leaf Extension %*
Ideal	No longer than height of cut	100
Acceptable	Longer than height of cut	150
Poor	Twice as long as height of cut	200
Neglect	More than twice as long as height of cut	over 200

1. Mowing is needed when the ratio of new growth to mowing height is:
a) 1:1
b) 2:1
c) 3:1

2. Best quality of cut is obtained with:
a) reel mowers
b) rotary mowers
c) flail mowers

3. Root length in more closely-mowed turf is:
a) longer
b) shorter
c) not a function of mowing height

4. The purpose of vertical "manicuring" turf is:
a) to remove old clippings and thatch
b) to help regulate green portions
c) both of the above

5. How much nitrogen applied to turf can be recovered in clippings?
a) 25%
b) 50%
c) 75%

6. Thatch, an accumulation of dead plant material, is most often:
a) acid
b) alkaline
c) neutral

7. On home lawns, thatch is generally not considered excessive until it is over:
a) ¼ inch
b) ½ to ¾ inch
c) 1 to 1½ inches

8. Excessive thatch may favor insects, diseases and:
a) puddling
b) heavy soil
c) winter desiccation

9. Thatch can be avoided/alleviated by:
a) collecting clippings
b) fertilization
c) aeration
d) all of the above

10. The most effective means of altering the *rate of thatch decomposition* is:
a) limiting fertilization
b) topdressing
c) introducing earthworms

11. For best results, soil should be aerated to *at least*:
a) 1 inch
b) 3 inches
c) 6 inches

12. Thatch accumulation is accelerated by:
a) heavy clay soil
b) frequent watering
c) heavy nitrogen rates
d) all of the above

Source:

Turf Managers' Handbook

W.H. DANIEL R.P. FREEBORG

ANSWERS

1)a; 2)a; 3)b; 4)c; 5)b; 6)a; 7)b; 8)c; 9)c; 10)b; 11)b; 12)d

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September 4, 1990

To Users of Small Diesel Engines

Ladies and Gentlemen:

Deutz Corporation of Atlanta, Georgia, and Ruggerini Motori S.p.A. of Reggio Emilia, Italy, have reached an agreement of importance to Diesel engine users in North America.

Deutz will market, support and service a number of modern, high-speed models out of the Ruggerini product offering especially selected for the requirements of the North American market. This addition extends Deutz' range downward for substantially increased competitiveness in smaller engines.

Starting today, the same experienced Deutz crew will offer these engines, product support, engineering and application assistance. Deutz will also provide parts and service availability for Ruggerini engines already operating in North America. We plan to duplicate the track record we have established in the market over the past 30 years.

We would appreciate a chance to tell you what we have to offer in the 4 to 30 HP range.

Thank you.

Sincerely,

DEUTZ CORPORATION

Werner Schmitz
President

P.S.: Fuel efficiency is in again!

Circle No. 109 on Reader Inquiry Card

PRODUCTS

Introducing two new vertical shaft engines

Teledyne Total Power now markets two new vertical shaft models of the Wisconsin Robin Sovereign engine series.

The WO1-170V is a single-cylinder, 5.5 hp engine that operates at 3600 rpm.

The WO2-560V is a twin-cylinder, 18-hp engine, that also operates at 3600 rpm.

The new models bring to 12 the number of engines available in the Sovereign Series.

Included in the series are seven horizontal shaft models with 4 to 18 hp. Five vertical shaft models have horsepower of 5.5 to 18. Every Sovereign model offers easy, dependable starting. Compact size and light weight, smooth, quiet operation, and long service life.

Teledyne Total Power says its engine models fit a wide range of lawn and garden equipment applications.

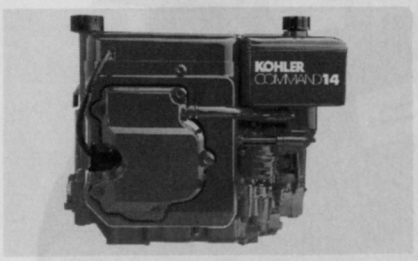
Circle No. 191 on Reader Inquiry Card

New, 14-hp engine most powerful overhead

Kohler's new Command 14-hp engine is one of four models in this innovative line of vertical and horizontal shaft engines.

The most powerful model in Kohler's overhead valve engine series, the Command 14 is conservatively rated at 14 hp gross.

Features include Kohler's exclusive hydraulic valve lifter, high



torque at low rpm, a mechanical governor to maintain constant rpm, and a computer-designed balanced shaft which reduces first order forces while inhibiting engine vibration.

Circle No. 192 on Reader Inquiry Card

New shovel maneuvers well in tight spaces

Kobelco America, Inc. has introduced the Super Shovel, model SS-60, which it says is the first machine of its kind to enter the American market.

Small enough to pass through a standard door frame and capable of digging to a depth of 3'4", the SS-60 was specifically designed to work in confined spaces and around obstacles.

The SS-60 is mounted on crawler treads, and powered by a 3.5-hp Ka-

wasaki engine with 12.3-cubic inch displacement.

Its compact dimensions, safety and ease of operation make it ideal for landscaping projects such as irrigation, ditch digging, flowerbed maintenance, and water features excavation.

Circle No. 193 on Reader Inquiry Card

Information manuals cover green industry

Nilsson Associates, green industry consultants based in Southington, Conn., has published an extensive business information reference library designed and written specifically for the green industry.

The management guides are the end result of over 20 years of experience and research in green industry contracting, management, accounting, marketing and sales.

These how-to management guides zero in on profit improvement, contract costing, sales, finance, operations and virtually every aspect of green industry business management.

Circle No. 194 on Reader Inquiry Card

Business management easy with intelligence software

A new artificial intelligence software package for microcomputers is making it easier for landscapers to manage their businesses.

The new software, called the Management Information Query System, is from the Datasphere Division of Doane Information Services. It is an English language interface for Datasphere's Terra System.

The query system allows landscapers to search the many files and data bases kept by the Terra System and produce custom-designed reports.

For example, a landscaper could find out about all jobs performed by a certain individual or analyze the effect of a percentage increase in labor or material on the profitability of a job.

MIQS and the Terra System operate on MS-DOS microcomputers as well as multi-user networks. The software permits reports to be designed graphically on the computer screen.

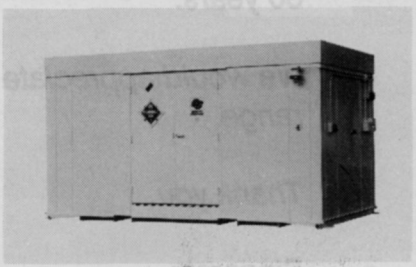
Circle No. 195 on Reader Inquiry Card

Storage building provides safe chemical storage

Safety Storage, Inc. of Campbell, Calif. announces the availability of its new, fire-rated model FR-30 storage building, designed to provide a prefabricated, relocatable structure for safe storage of hazardous liquids and other flammable materials.

FR-30 offers two-hour fire-rated walls extending to ground level, two-hour, fire-rated roof and ceiling and 1 ½-hour fire-rated doors.

Building walls are constructed of layers of 18-gauge sheet steel and double-thick fire-rated gypsum boards separated by heavy-duty steel studs incorporated within a 3½-inch air space. All materials are corrosion protected and interior surfaces are coated with chemical-resistant epoxy paint.



Circle No. 196 on Reader Inquiry Card

New transmission feature for more productivity

A 12x12-speed shuttle shift transmission for Models 1720 and 1920 Ford compact diesel tractors boosts productivity in loader and landscape work.

Available as an option to the standard 12x4 transmission, the 12x12 shuttle is synchronized for smooth, easy shifting.

With the shuttle, the operator can shift without coming to a complete stop, "feather" to the opposite direction and also change speed on the go.

As a result, cycle time is shortened for loading and other work that requires frequent direction change.

Circle No. 197 on Reader Inquiry Card

continued on page 70

CLASSIFIEDS

RATES: $1.25 per word (minimum charge, $40). Bold face words or words in all capital letters charged at $1.50 per word. Boxed or display ads: $105 per column inch-1x (one inch minimum); $100-3x; $95-6x; $90-9x; $85-12x. (Frequencies based on a calendar year). Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add $20 to total cost of ad per issue. Send ad copy with payment to Dawn Nilsen, LANDSCAPE MANAGEMENT, 1 East First Street, Duluth, MN 55802 or call 218-723-9483. Fax Number 218-723-9615.

BOX NUMBER REPLIES: Mail box number replies to: LANDSCAPE MANAGEMENT, Classified Ad Department, 1 East First St., Duluth, MN 55802. Please include box number in address.

BUSINESS OPPORTUNITIES

MAKE $1000+ A WEEKEND AERATING LAWNS AND SELLING SOIL CONDITIONER. GUARANTEED. Send for free information. Robin Pedrotti, 3403 Dorchester Dr., San Diego, CA 92123. 10/90

LEARN Professional Landscaping and Gardening at home. Accredited program provides thorough training in all phases of commercial and residential landscaping. Certificate awarded. Free booklet describes program and opportunities in detail. Lifetime Career Schools, Dept. A-415, 2251 Barry Ave., Los Angeles, CA 90064. 9/91

Environmental Care Inc

CAREER OPPORTUNITY

Technical / Training person wanted to do field research and training with large maintenance contracting firm. Knowledge of landscape maintenance practices in western states desirable. Ability to work with others and problem solve is essential.

Please send confidential resume to:
Manager of Technical Services
Environmental Care, Inc.
825 Mabury Road
San Jose, CA 95133.

WANT TO BUY OR SELL A GOLF COURSE? Exclusively golf course transactions and appraisals. Ask for our catalog. McKay Golf and Country Club Properties, 15485 N. East Street, Lansing, Michigan 48906. Phone (517)484-7726. TF

CURB KING: Curbing machine that lays continuous concrete landscape borders. $2695. Low investment, high returns. For information call 303-434-5337 or write P.O. Box 40567, Grand Junction, CO 81504. 11/90

Lawn, tree, and pest control business. Western Suburbs of Chicago. Approximately $300,000 annually. Interested, financially qualified buyers only. Reply to LM Box 481. 10/90

HELP WANTED

NEED LANDSCAPE WORKERS? We can solve any labor problem you have. We have documented workers as well as foremen, leadmen, irrigators and architects available at a price you can afford. Call today! **AMIGOS 214-634-0500.** TF

GROUNDS MANAGEMENT MANAGER

New Jersey's most progressive, well-equipped Landscape Management Company seeks a motivated individual capable of managing one of our branch offices.

Individual must possess a horticultural degree and have at least 3 to 5 years managerial experience in the Grounds Management industry.

Excellent salary and benefits, commission program and company vehicle. Send your resume in confidence to:

EOE M/F **LM Box 482**

MAINTENANCE SALES/SERVICE REPRESENTATIVE. Progressive, 35 year old San Francisco Bay area firm seeking long-term employees. Horticulture background, related degree preferred, sales experience helpful. Send resume to: Personnel Dept., **CAGWIN & DORWARD,** 1257 Quarry Lane, Suite 145, Pleasanton, CA 94566. 415-462-8881. 10/90

HELP WANTED: Manager for lawn and tree care division of large, full service landscape company. Must have related horticultural education and experience. Strong diagnostic abilities of tree and turf problems essential. Honest and enthusiastic personality required. Excellent future opportunity with company. Highly competitive salary plus benefits. Company established 45 years in the picturesque "Hamptons" of Long Island. Contact: Whitmore-Worsley, Inc., P.O. Box 10, Amagansett, NY 11930. 516-267-3756. *Equal Opportunity Employer.* 10/90

KT ENTERPRISES, INC., a commercial landscape management firm servicing the Washington, DC Metropolitan market, is now accepting applications for all departments for the 1990 season and beyond. All positions offer excellent salary, health benefits, retirement and, most importantly, an incomparable opportunity to work in a quality organization that will continue to offer professional satisfaction. All applicants should be experienced. Please send resume to Martha Sharlot, KT Enterprises, Inc., 4001 Westfax Drive, Fairfax, VA 22021. LANDSCAPE MAINTENANCE: Floral Installation Specialists, Turf an Ornamental Specialists, Pruning Specialists, Maintenance Supervisors. LANDSCAPE INSTALLATION: Landscape Supervisors, Landscape Installation Foremen, Hardscape Specialists, Equipment Operators. IRRIGATION INSTALLATION: Installation Supervisors, Installation Foremen, Golf Course Irrigation Specialists. SALES: ALL DEPARTMENTS: Sales Representatives Designers, Estimators. 11/90

Assistant superintendent needed for sod operation located in Powells Point, North Carolina, at the gateway to the Outer Banks. Turf related employment history a plus. Degree in agronomy or turf related field required. Warm and cool season grasses currently under production. Excellent salary and benefits available. Send resume to the attention of the Director of Operations at United Turf Inc., Route 1, Box 170, Powells Point, NC 27966. 10/90

"Consider all of your employment options in the irrigation and landscape industries. Call **Florapersonnel,** the international employee search firm for the ornamental horticulture industry. Completely confidential. Employer pays fee. **Florapersonnel, Inc.,** P.O. Box 1732, 1450 S. Woodland Blvd., Suite 201, DeLand, FL 32721-1732. (904)738-5151. Jeff Brower, Joe Dalton, Bob Zahra, CPC." TF

"AMERICANS ON THE MOVE" - Aggressive landscape company has immediate opening for a take-charge Chief Estimator. Experience required in estimating and bid preparation of large commercial, industrial and public works landscape, irrigation and site development projects. Permanent position with benefits. Salary commensurate with experience. Send resume to Mickey Strauss, American Landscape Companies, 7949 Deering Avenue, Canoga Park, CA 91304. TF

LANDSCAPE DESIGNER/SALESPERSON: Long-established design/build landscape firm has opening for landscape designer/salesperson. Three to five years design/build experience required. Send detailed resume to **HUNZIKERS INC.,** P.O. Box 397, Niles, MI 49120. 10/90

LANDSCAPE DIVISION MANAGER: well established, rapidly growing company seeks individual to take over for retiring manager. Individual must be able to run both a maintenance and a planting division simultaneously. Requires exceptional organizational/management skills as well as complete command of plant materials and maintenance techniques. For consideration contact David Gorter, 855 Skokie Highway, Lake Bluff, IL 60044. 708-615-0800. 10/90

Assistant Supervisor - Department of Facility Operations: Strong leader needed for multiple site field supervision and management of landscape maintenance, installation, irrigation, and nursery operations. Liberal benefits. Annual salary $26,004. Send resume to: School Board of Palm Beach County, Department of Facility Operations, Attn: Joseph T. Lawson, 3300 Summit Boulevard, West Palm Beach, FL 33406. 407-687-7024/Landscape Section. 10/90

CEMETERY LANDSCAPE MANAGER. Award winning 225 acre cemetery and memorial park in Tampa Bay area seeks manager with A.S. Horticulture, Professional Certifications (PGMS, LMA). Three years experience with good organizational skills, Spanish language skills also helpful. Send resume with salary requirements to: Landscape Manager, 4207 E. Lake Avenue, Tampa, FL 33610. 10/90

LANDSCAPE MAINTENANCE PRODUCTION MANAGER: Rapidly growing Central Florida Landscape firm seeking an experienced production manager with strong people and organizational skills. Experience with large commercial accounts and a sincere desire to build a business based on customer service a must. Strong Salary and Benefits. Must relocate to Orlando. Send resume to: Mr. Khalsa, 1174 Florida Central Pkwy., Longwood, Florida 32750. 11/90

BOZZUTO LANDSCAPING COMPANY- An expanding firm in the Washington D.C., Virginia and Maryland markets is currently looking for qualified, career oriented professionals. Opportunities are available in the following departments: **COMMERCIAL GROUNDS MAINTENANCE:** Supervisors, Crewleaders and Crewpersons. **LANDSCAPE INSTALLATION:** Supervisors, Foremen and Crewpersons. **HYDROSEEDING AND EROSION CONTROL:** Foremen and Crewpersons. Benefits include vacation and sick leave, a super health care package, disability and retirement. Send resumes to: Thomas W. Davis, 15127 Marlboro Pike, Upper Marlboro, Maryland 20772, or call 301-627-6500. 11/90

Landscape Supervisor: Established Michigan Contractor looking for self-motivated individual with 5 years minimum experience to manage crews and oversee landscape installation. Send resume and salary requirements to: DeAngelis Landscape Incorporated, 22425 Van Horn Road, Woodhaven, Michigan 48183. EOE. 12/90

Position open for Commercial Landscape Maintenance Foreman: Minimum 2 years management experience w/degree. Strong turf background required. Rapid growth potential, good salary package. Send resume to New Garden Landscape Management, P.O. Box 549, Summerfield, NC 27358. 10/90

WANTED - MANUFACTURERS REPRESENTATIVES AND DISTRIBUTORS - to represent a line of high quality hydroseeding tackifiers. For more information, contact PRSM, Inc. at (215)430-3960. 11/90

EDUCATIONAL OPPORTUNITIES

FREE CATALOG of educational training videotapes. Over 50 titles including Irrigation, Pesticides, Safety, Pruning, Tool Use, Plant Selection, Soils and Planting, Turf Management, Xeriscape, IPM. Money Back Guarantee! VEP - California Polytechnic State University. 1-800-235-4146. 12/90

FOR SALE

PIPE LOCATOR INEXPENSIVE! Locates, traces underground drain, water pipe lines of clay, PVC, ABS, steel, cement. Finds sprinklers, valves, clogs. Bloch Company, Box 18058, Cleveland, Ohio 44118. (216)371-0979. TF

PORTABLE STUMP CUTTER - 10 to 16 H.P. or Diesel optional, 4 speed transaxle 28 1/2" to 34 1/2" wide. $1,795, up. Kinetic Stump Cutter, Inc. 1-800-422-9344. 10/90

LAWN SEED: Wholesale. Full line of top quality grasses. Improved bluegrass varieties, tall fescues and fine bladed ryegrasses. We specialize in custom mixing. Oliger Seed Company, 89 Hanna Parkway, Akron, OH 44319. Call collect (216)724-1266. TF

HYDRO-MULCHERS AND STRAW BLOWERS New and used. **JAMES LINCOLN CORPORATION,** 3220 S. Jupiter Rd., Garland, TX 75041. (214)840-2440, (800)527-2304. TF

FOR SALE: (4) TREE/LAWN SPRAYING TRUCKS. (2) 1990 GMC 5,000's (ISUZU WR 5's). 4 months old, 5 speed, diesel, 14 ft. flatbed, power steering, 2 year unlimited mileage manufacturers warranty. IPM set-up, 4 tanks (2-300 gal./1-200 gal./1-100 gal.). Dual hose reels-large Hannay reel 300 ft. 3¼" hose, John Bean 785 spray gun, small Hannay reel 300 ft. ½" hose/JD-9 spray gun, dual spray systems, 30HP Wisconsin engine, hypro pump Model D1504-39.6 gpm, Briggs & Stratton engine, hypro pump Model D50-12.7 gpm. 18,000 lbs. GVW. Cost new $41,000 each, sell $31,000 each. ALSO (2) 1990 DODGE D350's, 7 year 70,000 mile warranty, 4 speed, V-8 engine, power steering, 12 ft. flatbed, 3 tanks (2-300 gal./1-100 gal.). Dual hose reels-large Hannay reel 300 ft. 3¼" hose/Bean 785 gun, small Hannay reel 300 ft. ½" hose/JD-9 spray gun, dual spray systems, 30HP Wisconsin engine/hypro pump-D1504-39.6 gpm, Briggs & Stratton engine/hypro pump-D50-12.7 gpm. Cost new $32,000 each, sell $21,500 each. Contact owner for details. 201-633-8398 days/516-331-4713 eves. Photos available for all trucks. 10/90

Husler zero turning radius mowers: 2-Model 251 18 hp 50" deck, Model 272 23 hp 72" deck, Model 305D diesel 20 hp 72" deck, Model 262 18 hp 60" deck, Model 400 Rangewing 24 hp 1-72" deck, 2-40" decks, Model 400 D 24 hp 72" deck. *Mowers only in operation 2 seasons and have been completely renovated for a new season. Owner highly motivated to sell. Call Mr. Khalsa. 407-831-8101. 11/90

SOD blends of four bluegrasses or bluegrass and perennial ryegrass blends shipped via our trucks within 300 miles of Pittsburgh. Penncross bent sod shipped within 1,000 miles of Pittsburgh. Vicnor Farms, Connoquenessing, Pennsylvania 16027. 412-789-7811. 10/90

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5 CTL Turf-runner 1900D Mowers with 6' decks. Kubota diesel engines. These are commercial machines. (405)853-2253, (405)853-2551. 12/90

BENT GRASS available for immediate pick-up or delivery. For information call Jade Run Turf and Sod Farm: 800-332-1220. 10/90

NEW AND USED BROUWER EQUIPMENT: Mowers - VACS - Fork Lifts - Harvesters - and full line of replacement parts. Contact Glenn or Ed Markham at 1-800-458-3644. TF

1978 Chevy C-60, 800 Gallon Tank W/Pump and Hose. Ready to spray. Call Steve at 918-258-3566. Price $3,900 or best offer. 10/90

1986 GMC Stake Body Truck, V-8, 4-spd. PS. PB, Casset, 11 ft. Body, 1,000 Lb. Hyd. Lift Gate, New Spare 24K, V.G.C. $10,900. 708-257-8608. 10/90

Classen 5 HP Lawn Aerator, Used 2 Seasons, Like New w/extra Tines. 708-257-8608. 10/90

SPYDERS - New/Used/Rebuilt. New Kohler engines, short blocks and a complete line of engines and Spyder replacement parts. New Style Nichols-Fairfield Torque Hub Kits, heavy duty Wilton Caster Kits, Remote Air Cleaner Kits, heavy duty Carriage Side Plates. We repair and rebuild hydraulic pumps and motors for your Spyder. Same day service. Call or Write: Mobile Lift Parts, Inc., 5402 Edgewood Rd., Crystal Lake, IL 60012. 815-455-7363; 1-800-397-7509. 10/90

Tuflex 300 gal. Fiberglass Pick-up Truck Tank w/5 HP Eng., Hydro. Pump, Elec. Hose Reel & Gun. G.C. $2,800. 708-257-8608. 10/90

ZOYSIA MEYERS Z-52 SOD OR SPRIGS. EXCELLENT QUALITY DELIVERED ANYWHERE AT REASONABLE PRICES. ALSO ROW PLANTING AVAILABLE. DOUBLE SPRINGS GRASS FARM, SEARCY, AR. 1-800-458-4756. TF

Bulk bark mulch and woodchips, hardwood, pine, and cypress, lumber, timbers, stone products. Many other landscape and nursery supplies. Express delivery, UPS, next day shipment. LANDSCAPE SUPPLY HOTLINE! Garick Corporation and Landscapers Wholesale Inc., OHIO-1-800-631-1395, U.S.A.- 1-800-322-7770. 10/90

FOR SALE: Toro 7 gang spartans, sharpened. $5,250. Jake fairways 7 gang rebuilt, sharpened 10 blade. $5,000 firm. Photos available. (313)653-5695. 10/90

1988 LESCO 500 GAS FAIRWAY MOWER, 9 BLADE UNIT. USED ONLY 1 SEASON, 280 HOURS. CALL 413-568-1636 ASK FOR MIKE OR KEITH. 10/90

PAUL FLORENCE Turfgrass: Quality seed for the Turf Professional. Elite Bluegrasses, Fine-Leaf Ryegrasses, and Turf-Type Tall Fescues. Custom mixing our specialty. Silva-Fiber mulch and supplies for hydro-seeders. Quality Elite Bluegrass Sod. Call us! (513)642-7487. 13600 Watkins Rd., Marysville, OH 43040. TF

Finn Hydroseeders, Mulch Spreaders, Krimpers, Pit Burners, Fiber Mulch & Tackifiers. New & Used. **Wolbert & Master, Inc.,** P.O. Box 292, White Marsh, MD 21162, 301-335-9300, 1-800-234-7645. TF

COLORADO GOLF COURSE: Nine holes with land to expand (177 acres) 2 streams, 3 ponds and magnificent mountain range view. Water augmentation just completed with zoning approved for 18 homesites plus 1 commercial site. Course 3 years old; $650,000. Box 30, West Cliffe, CO 81252. 10/90

DAKOTA HAND

TREE TRANSPLANTER

Lightweight, Variable Size Rootball (16" - 28"), Component Adaptable (sprayer, logsplitter, dump box, post-hole digger). Available in 3 models (towable, bucket mount, 3 pt.).

MID DAKOTA CORP.
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High quality professional horticulture training videos. 100% satisfaction guaranteed! Call or write for a free color catalog. San Luis Video Publishing, P.O. Box 4604, San Luis Obispo, CA 93403 Tel: (805)545-5426. Fax: (805)545-5423. 10/90

MAZDA FLEET SALES

OUR REPUTATION PRECEDES US.

1986: #1 IN TRUCK CUSTOMER SATISFACTION
1987: #1 IN TRUCK CUSTOMER SATISFACTION
1988: #1 IN TRUCK CUSTOMER SATISFACTION
1989: MOST TROUBLE-FREE TRUCK LINE IN AMERICA
1990: #1 IN TRUCK CUSTOMER SATISFACTION
1990: MOST TROUBLE-FREE TRUCK LINE IN AMERICA

We've always believed that if we made good trucks, word would get around. And that's what's happening, if our rankings in recent J.D. Power and Associates surveys are any indication. This year, for the fourth time in the last five, our entire line of trucks ranked number one in customer satisfaction.*

And Mazda received the award for most trouble-free compact truck line in America for the second straight year.** We think that's a pretty good indication of what you, as a fleet operator, can expect from Mazda.

Choose from a complete range of models, 2- and 4-wheel drive, and a choice of engines to suit any purpose. All with standard features like confidence-inspiring rear anti-lock brakes. And all backed by our 36-month/50,000 mile, no-deductible, "bumper-to-bumper" warranty–one of the best basic warranties† in the truck business.

To get the lowdown on the complete line of tough, reliable Mazda trucks, call our National Fleet Sales office at (714) 727-6453. As you'll quickly see, your business can benefit from choosing Mazda. Because only our reputation precedes us.

*J.D. Power and Associates 1986, 1987, 1988, 1990 Light Duty Truck Customer Satisfaction with Product Quality and Dealer Service.SM **J.D. Power and Associates 1989 and 1990 Compact Truck Initial Quality Survey.SM Based on owner reported problems during the first 90 days of ownership. †Contact the National Fleet Sales Office for limited-warranty details.

mazda
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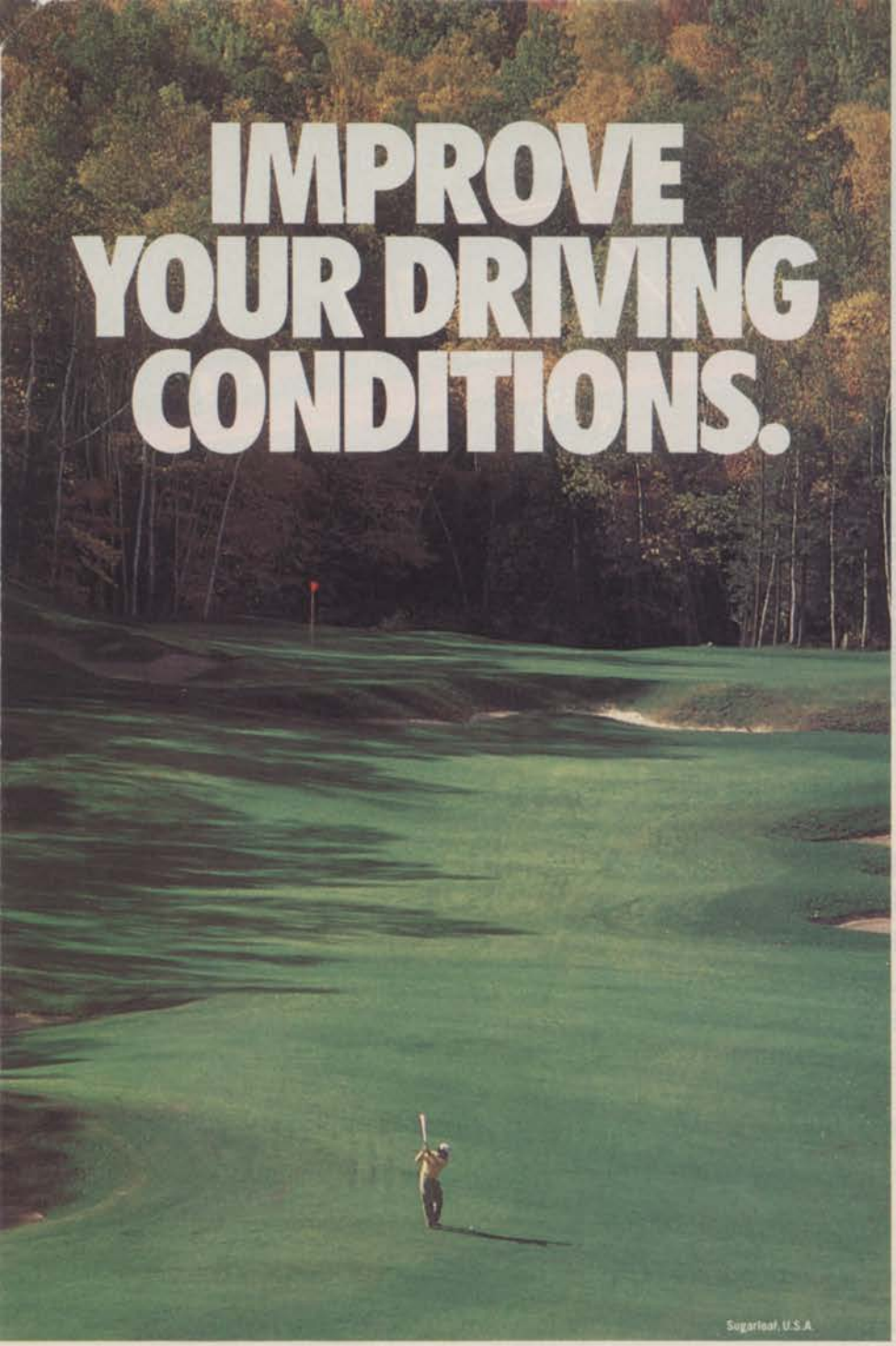
Circle No. 119 on Reader Inquiry Card



ORTHENE® Turf, Tree & Ornamental Spray keeps pests out of your club.

Stop pests from playing a round on your course with ORTHENE Turf, Tree & Ornamental Spray. One treatment provides a broad spectrum of protection for turf as well as a wide variety of trees and ornamentals.

ORTHENE kills quickly on contact, then by systemic action. So you'll keep hard-to-kill pests like mole crickets, armyworms and leafhoppers under control. ORTHENE supplies long-lasting residual action against other insects including tent caterpillars, aphids and thrips.

ORTHENE Turf, Tree & Ornamental Spray. It's more than enough to drive unwanted pests right off your course.

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Turf, Tree & Ornamental Spray

Avoid accidents. For safety, read the entire label including precautions. Use all chemicals only as directed. Copyright © 1990 Valent U.S.A. Corporation. All rights reserved. ORTHENE is a registered trademark of Chevron Chemical Co.

VALENT™

Circle No. 139 on Reader Inquiry Card

Super Lawn growing mat is imbedded with high quality grass seeds. Rolls 5' X 50' = 250 sq. ft, $45.50. Weight 30 pounds. Wild flower growing mat imbedded with 20 varieties of wild flower seeds. Rolls 2 1/2" X 10' = 25 sq. ft., $9.95. Weight 3 pounds. Call 1-800-321-6888. 10/90

REINCO HYDROGRASSERS and power mulchers in stock. Opdyke Inc. (Philadelphia Area) 215-721-4444. TF

REPS WANTED

Sales Representative: Great opportunity for energetic, self-motivated individual for full time sales. Interesting and challenging work in So. California for a distributor of specialty agricultural chemicals. PCA license and/or degree in biological science required. Turf/landscaping experience preferred. Excellent company benefits. EOE. Non Smoking. Send resume: P.O. Box 1117, Cerritos, CA 90702. 10/90

SERVICES

ATHLETIC FIELDS renovated and resodded, stripped, tilled, fertilized, soil amendments added, graded and sodded. $20,000 plus or minus 20% within 150 miles of Pittsburgh. Vicnor Farms, Connoquenessing, Pennsylvania 16027. 412-789-7811. 10/90

USED EQUIPMENT

NEW and USED EQUIPMENT--Asplundh, Hi Ranger and Lift-all forestry bucket trucks, Chipmore wood chippers. Mirk, Inc., (216)669-3567, (216)669-3562, 7629 Chippewa Road, Orrville, Ohio 44667. TF

BUCKET TRUCKS, Straight Stick, Corner Mount and Knuckle Boom Cranes. Brush Chippers - New Morbark Disc Type, New Woodchuck Drum Type. Best prices anywhere. Used Chippers - Asplundh, Woodchuck, etc. 2 to 8 usually in stock. Sprayers, Dumps, Stakes, Log Loaders, Crew Cab Chip Box Dumps, Railroad Trucks, 50 in stock. Sold as is or reconditioned. Opdyke's, Hatfield (Philadelphia Area) 215-721-4444. TF

TRACTORS: One Case, Model 685 (600 hrs.) and one Ford, Model 6610 (760 hrs.), each with Mott 74" left and right and 88" rear mowers. Used one season. $50,000 both; $26,000 each. Equipment located in Columbia, SC. Call 301/345-4654. 10/90

Roker 40" Tree Spade - $3800. Hydrobrute 30" Tree Spade - $2500. All in good working condition, ready to go to the field. **CLOVERDALE NURSERY,** Boise, ID (208)375-5262. 10/90

BUCKET TRUCK: Hi Ranger 65', 57', 50'. Skyworkers with chip boxes. Asplundh bucket trucks with chip boxes. Asplundh brush chippers. Bean 55 gal. sprayers. Pete Mainka Enterprises, 633 Cecilia Drive, Pewaukee, WI 53072. 414-691-4306. TF

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Research...Production...Quality...Personal Service...
WE DELIVER!

PENNINGTON Covers the nation!

Finelawn 1 TURF TYPE TALL FESCUE

Finelawn TURF TYPE TALL FESCUE **5GL**

Wrangler TURF-TYPE TALL FESCUE

TRIAD® TURF TYPE TALL FESCUE BLEND

PERFECTA DURABLE TALL FESCUE MIXTURE

HUNTSVILLE KENTUCKY BLUEGRASS

FLYER CREEPING RED FESCUE

TRIPLE PLAY ELITE PERENNIAL RYEGRASS BLEND

Stallion TURF TYPE PERENNIAL RYEGRASS

sunrise Two Forty Six TURF TYPE PERENNIAL RYEGRASS

PEBBLE BEACH Perennial Ryegrass

Chateau PREMIUM KENTUCKY BLUEGRASS

CHEYENNE TURF TYPE BERMUDAGRASS

Pennington Subsidiaries

Pennington Seed, Inc. of Madison
Madison, GA **(404) 342-1234**

Pennington Seed, Inc. of Greenfield
Greenfield, MO **(417) 637-5979**

Pennington Seed, Inc. of Columbia
Columbia, SC **(803) 771-4222**

Pennington Seed, Inc. of Louisiana
Hammond, LA **(504) 386-7611**

Pennington Seed, Inc. of Cullman
Cullman, AL **(205) 734-9486**

Pennington Seed, Inc. of Virginia
Petersburg, VA **(804) 732-4769**

Pennington Seed, Inc. of Orlando
Orlando, FL **(407) 295-6271**

Mid-South Seeds, Inc.
N. Little Rock, AR **(501) 945-1474**

Production Facilities

CACTUS SEED COMPANY, INC.
Roll, AZ

PENNINGTON SEED, INC. of Oregon

GRO-TEC, INC. Eatonton, GA

Insure Your Stand, Ask For

PENKOTE
With Apron Fungicide
Natural Growth Hormones
and Rooting Stimulants

National WATTS
1-800-543-1814

For additional information write
PENNINGTON SEED, INC. Turf Dept.
P.O. Box 290 Madison, Georgia 30650

Circle No. 128 on Reader Inquiry Card

PRODUCTS *from page 62*

Walk-behind mower for commercial users

The W5021-PCC walk-behind mower is the newest addition to Kubota Tractor's commercial turf maintenance line.

The mower is equipped with a 5-hp, 8.91-cubic inch overhead valve engine that delivers high torque at low speeds, so it easily handles a variety of terrains. With long-lasting components like cast-iron cylinder sleeves, cast-iron flywheel and ball-bearing supported crankshaft, the mower is designed with built-in durability.

The large capacity fuel tank minimizes the need for refueling. High-suction turbo fan produces Turbo-Suction, inhaling grass, leaves and twigs, and sweeping up debris and leaving behind nothing but a well-maintained lawn.

Circle No. 201 on Reader Inquiry Card

Retaining wall system used by many sectors

The landscape, golf and roadside maintenance industries can benefit from the many applications of mortarless Allan Block concrete retaining wall system.

"We've seen an immediate acceptance of Allan Block for many different applications—residential and commercial landscaping, roadway construction and golf course design," says Robert Gravier, product designer and president of Allan Block Corp., located in Minneapolis.

Allan Block is a patented landscape retaining wall system which does not require mortar, footings or pins, and can be used in a variety of site and soil conditions. The block is uniquely designed with a raised lip on the front upper edge, allowing blocks to interlock without mortar as they are stacked.

Circle No. 198 on Reader Inquiry Card

Edging system holds stonework in place

Bric-Edg is a new landscape edging system from Oly-Ola Sales of Villa Park, Ill.

The PVC edging is designed specifically to support and contain bricks, cobblestones or patio blocks. It can be used for sidewalk, driveway, courtyard or patio installations.

Lightweight and easy-to-install, Bric-Edg is available as a rigid edging, or, for contoured or circular areas, in a flexible V-cut style that can be curved to a radius of about 36 inches.

Oly-Ola Sales says the Bric-Edg is suitable for use in any climate. Once

installed, an invisible, clean line is formed between the brickwork and adjacent areas.

Circle No. 199 on Reader Inquiry Card

Stump cutter improved with new features

The Rayco RG-1635A stump cutter has three new standard features which have improved performance.

Now, the 35-hp Rayco makes up to 3½-deep cut with each pass of the 23-inch cutter wheel.

Cutting larger stumps is now easier, according to Rayco. This is possible thanks to an all-new 32-tooth "Deep Bite" cutter pattern, and significantly reduces cutting time on stumps.

Chip collection capacity has been increased to 22 cubic feet to handle more chips. The larger chip capacity, coupled with the units exceptionally big cutting dimensions, are two performance features that enable this 35-hp machine to tackle big stumps easily.

Dual cross-travel cylinders control the speed at which the cutter wheel slices through the stump. Cylinders

feed at the same rate on inclines.

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50 ☐ OTHER TITLED AND NON–TITLED PERSONNEL (specify) _____

PROBLEM MANAGEMENT

by **Balakrishna Rao,** Ph.D.

No danger of herbicide injury

Problem: *Will the damage from lawn-applied Trimec herbicide produce any long term effect on a plant? (New York)*

Solution: It is difficult to answer your question without knowing the amount, frequency and timing of application. When applied according to label specifications there should not be any danger from herbicide injury.

According to sources at PBI-Gordon, manufacturer of the product, recommended rates of application were set to provide for a three-fold error before injury to turf occurs. However, herbicide damage to non-target plants can occur due to mis-application, drift, frequent application and/or dry soil conditions.

The label recommendations of herbicide rates are designed to manage herbaceous weeds and should not cause permanent injury to woody plants. The woody plants resist the movement of these products inside because of their different vascular tissue. The mode of entry would be from foliage absorption of drift or from root uptake of materials like dicamba.

Growth-regulating hormones are naturally present in a plant system. The herbicides contain higher rates of similar growth hormones and as a result, affected plant parts show twisting, cupping, or curling of tissues, distortion and discoloration—primarily on new growth.

Herbicide injury from drift usually occurs on the side which contacted the herbicide. Injury from root uptake may show up on the entire plant or be scattered throughout the plant, but it will primarily be seen on new growth.

In the case of drift, deciduous plants may show slight herbicide injury initially, and the new growth may come out without any visible symptoms later in the same season or the following season. However, if it was taken up by the roots the symptoms may continue on new growth until the soil-accumulated products like dicamba are degraded. Dicamba tends to accumulate in dry soils and will be taken upward whenever there is excess water in the soil from rain or frequent irrigation.

In the case of evergreens, any herbicide damage which occured may remain for a long time and, depending upon the concentration, subsequent growth may or may not show any symptoms.

If the injury is very severe, discoloration, defoliation or death of the plants may occur. In most situations, the rate applied is not high enough to cause long-term effects.

Grow Gun under study

Problem: *What is your opinion about using the Grow Gun for aerating compacted and dry soils or dealing with fertilizing these areas? (Colorado)*

Solution: We have not yet completed our evaluation of the Grow Gun or other aeration equipment. Dr. Smiley, et. al., of the Bartlett Tree Research Laboratories, reported results in the May 1990 issue of *The Journal of Aboriculture.* According to their findings, oxygen diffusion was improved only at the fracture line and bulk density was not reduced. The impact of treatment on tree growth is still under study.

You may also wish to contact the manufacturer of Grow Gun for more information.

Holly planting patterns

Problem: *Is there a particular time of year when a holly should or should not be transplanted? Is it necessary to plant a male and female plant close to get berries? (Virginia)*

Solution: Field grown hollies should not be moved or transplanted during budbreak and new growth flushing. The timing for budbreak or flushing of new leaves will vary from one geographic location to another where hollies are grown. In your area, the May to June period would be unfavorable.

After the new growth hardens, the hollies can be moved or transplanted when good weather conditions permit. Make sure to provide good care of these plants.

Ideal periods for transplanting hollies would be during early fall (September through mid-November) and early spring (any time the ground is suitable for planting after mid-February).

During extreme cold weather it is difficult to move hollies. Sub-freezing temperatures (below 22°) can cause freezing injury to root systems.

Containerized hollies can be planted any time of the year except during temperature extremes. Extreme care should be given when planting plants during new flush of growth.

As far as your question concerning the need for planting male and female plants, only the female produces berries and the flowers must be pollinated by a male plant. If you are in an area where there are a number of naturally-occurring hollies in the woods or planted in the landscape, you may not need to plant any male plants close by. However, if there are no naturally-occurring hollies in the woods or planted in the landscape, or any problems in proper pollination, then it is advisable to have male holly plants nearby. You could consider planting male hollies only if there would be any problems with pollination and fruit setting. **LM**

Balakrishna Rao is Manager of Technical Resources for the Davey Tree Co., Kent, Ohio.

Questions should be mailed to Problem Management, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.

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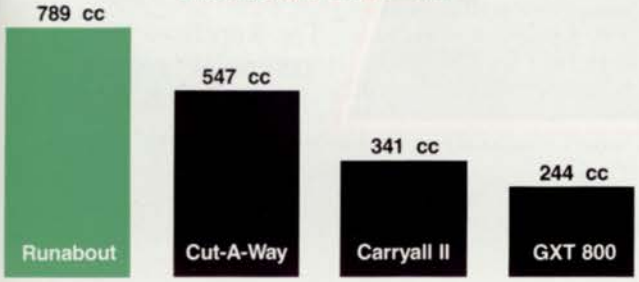

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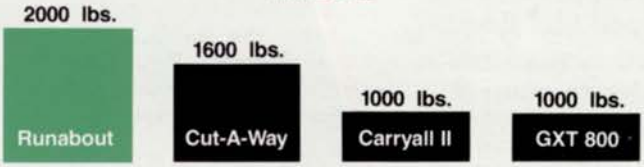

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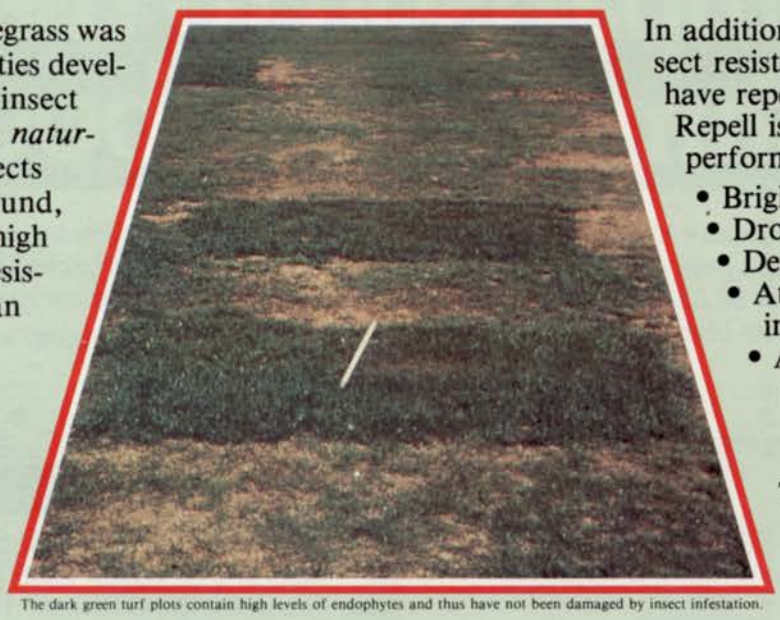

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